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	Derleme	Prospektif Makaleler	Retrospektif Makaleler	Vaka sunumu/vaka kontrol
Tiroid	8	8	28	3
Paratiroid	1	5	8	2
Adrenal	5		13	2
NET	8	1	11	

TİROİD (1841 makale taranmıştır)

DERLEME

1. Primary thyroid lymphoma: a clinical review. ►
2. Current Understanding and Management of Medullary Thyroid Cancer. ►
3. Molecular diagnosis for indeterminate thyroid nodules on fine needle aspiration: advances and limitations. ►
4. Thyroglobulin in the washout fluid of lymph node biopsy: what is its role in the follow-up of differentiated thyroidcarcinoma? ►
5. Therapeutic strategy for low-risk thyroid cancer in Kanaji Thyroid Hospital [Review]. ►
6. Thyroid Storm: An Updated Review. ►
7. Anaplastic thyroid cancer in young patients: A contemporary review. ►
8. Screening for thyroid disease in pregnancy: a review. ►

TİROİD

PROSPEKTİF

1. Comparıson of elastographıc straın ındex and thyroıd fıne-needle aspıratıon cytology ın 631 thyroıd nodules. ►
2. SPECT/CT sentinel lymph node identification in papillary thyroid cancer: lymphatic staging and surgical management improvement. ►
3. Prospective screening in familial nonmedullary thyroid cancer. ►
4. A simplified economic approach to thyroid FNA cytology and surgical intervention in thyroid nodules. ►

5. Quality of life after thyroid surgery in women with benign euthyroid goiter: influencing factors including Hashimoto's thyroiditis. ►
6. Utility of diffusion-weighted imaging in differentiating malignant from benign thyroid nodules with magnetic resonance imaging and pathologic correlation. ►
7. Sutureless thyroidectomy with energy-based devices: Cerrahpasa experience. ►
8. Comparison of measured and calculated dose rates near nuclear medicine patients. ►

TİROİD

RETROSPEKTİF

1. Does BRAF V600E Mutation Predict Aggressive Features in Papillary Thyroid Cancer? Results From Four Endocrine Surgery Centers. ►
2. Thyroid nodules with initially nondiagnostic cytologic results: the role of core-needle biopsy. ►
3. Napsin A expression in anaplastic, poorly differentiated, and micropapillary pattern thyroid carcinomas. ►
4. The biopsy-proven benign thyroid nodule: is long-term follow-up necessary? ►
5. High-Risk Patients with Differentiated Thyroid Cancer T4 Primary Tumors Achieve Remnant Ablation Equally Well Using rhTSH or Thyroid Hormone Withdrawal. ►
6. Impact of early vs late postoperative radioiodine remnant ablation on final outcome in patients with low-risk well-differentiated thyroid cancer. ►
7. Are prognostıc scorıng systems of value ın patıents wıth follıcular thyroıd carcınoma? ►
8. Post-surgical thyroid ablation with low or high radioiodine activities results in similar outcomes in intermediate risk differentiated thyroid cancer patients. ►
9. Impaired glucose metabolism is a risk factor for increased thyroid volume and nodule prevalence in a mild-to-moderate iodine deficient area. ►

10. Total thyroidectomy for Graves' disease: Compliance with American Thyroid Association guidelines may not always be necessary. ►

11. Clinical significance of microscopic anaplastic focus in papillary thyroid carcinoma. ►

12. Hurthle cell carcinoma: An update on survival over the last 35 years. ►

13. Clinical Significance of Delphian Lymph Node Metastasis in Papillary Thyroid Carcinoma. ►

14. Evaluating the Morbidity and Efficacy of Reoperative Surgery in the Central Compartment for Persistent/Recurrent Papillary Thyroid Carcinoma. ►

15. Surgery for Graves' disease: a 25-year perspective. ►

16. Ultrasound-guided fine-needle aspiration for solid thyroid nodules larger than 10 mm: correlation between sonographic characteristics at the needle tip and nondiagnostic results. ►

17. Overexpression of miR-10a and miR-375 and downregulation of YAP1 in medullary thyroid carcinoma. ►

18. Selective lateral compartment neck dissection for thyroid cancer. ►

19. Hürthle cell presence alters the distribution and outcome of categories in the Bethesda system for reportingthyroid cytopathology. ►

20. Predictive factors of malignancy in patients with cytologically suspicious for Hurthle cell neoplasm of thyroidnodules. ►

21. Superior mediastinal dissection for papillary thyroid carcinoma: approaches and outcomes. ►

22. Neural monitored revision thyroid cancer surgery: surgical safety and thyroglobulin response. ►

23. Prevalence and prediction for malignancy of additional thyroid nodules coexisting with proven papillary thyroid microcarcinoma. ►

24. Electrophysiologic Monitoring Characteristics of the Recurrent Laryngeal Nerve Preoperatively Paralyzed or Invaded with Malignancy. ►
25. Clinical characteristics of papillary thyroid microcarcinoma less than or equal to 5 mm on ultrasonography. ►
26. The role of nerve monitoring to predict postoperative recurrent laryngeal nerve function in thyroid and parathyroid surgery. ►
27. Follicular lesion of undetermined significance in thyroid FNA revisited. ►
28. Thyroid hormone replacement therapy, surveillance ultrasonography, and fine-needle aspiration after hemithyroidectomy. ►

TİROİD

Vaka sunumu / Vaka kontrol

1. The relationship between extent of thyroid cancer surgery and use of radioactive iodine. ►
2. Patients' experiences following local-regional recurrence of thyroid cancer: a qualitative study. ►
3. Pretibial myxedema without ophthalmopathy: an initial presentation of Graves' disease. ►

PARATİROİD (465 makale taranmıştır)

DERLEME

1. Surgeon-performed ultrasound for primary hyperparathyroidism. ►

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1. Parathyroidectomy improves symptomatology and quality of life in patients with secondary hyperparathyroidism. ►
2. Intact parathyroid hormone measurement at 24 hours after thyroid surgery as predictor of parathyroid function at long term. ►
3. Three-phase parathyroid 4-dimensional computed tomography initial experience: inexperienced readers have high accuracy and high interobserver agreement. ►
4. A comparison of minimally invasive video-assisted parathyroidectomy and traditional parathyroidectomy forparathyroid adenoma. ►
5. Genetic and epigenetic changes in sporadic endocrine tumors: Parathyroid tumors. ►

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1. Causes of Emergency Department Visits Following Thyroid and Parathyroid Surgery. ►
2. Do giant parathyroid adenomas represent a distinct clinical entity? ►
3. Efficacy of localization studies and intraoperative parathormone monitoring in the surgical management of hyperfunctioning ectopic parathyroid glands. ►
4. Utility of intraoperative parathyroid hormone monitoring in patients with multiple endocrine neoplasia type 1-associated primary hyperparathyroidism undergoing initial parathyroidectomy. ►
5. Minimally Invasive Resection for Mediastinal Ectopic Parathyroid Glands. ►
6. Factors that influence parathyroid hormone half-life: determining if new intraoperative criteria are needed. ►
7. Intraoperative parathyroid hormone assay during focused parathyroidectomy: the importance of 20 minutes measurement. ►
8. Minimally invasive parathyroidectomy provides a conservative surgical option for multiple endocrine neoplasia type 1-primary hyperparathyroidism. ►

PARATİROİD

VAKA SUNUMU

1. Intrathyroidal parathyroid carcinoma mimicking a thyroid nodule in a MEN type 1 patient. ►
2. Uncommon presentations of parathyroid adenoma. ►

ADRENAL (1127 makale taranmıştır)

DERLEME

1. Robotic Versus Laparoscopic Adrenalectomy: A Systematic Review and Meta-analysis. ►
2. Familial pheochromocytomas and paragangliomas. ►
3. Adrenal schwannoma: a rare type of adrenal incidentaloma. ►
4. Adrenal masses: contemporary imaging characterization. ►
5. Pheochromocytoma - review and biochemical workup. ►

ADRENAL

RETROSPEKTİF

1. The Characterization of Pheochromocytoma and Its Impact on Overall Survival in Multiple Endocrine Neoplasia Type 2. ►
2. Adrenal cortical adenoma: the fourth component of the Carney triad and an association with subclinical Cushing syndrome. ►
3. Long-Term Survival After Adrenalectomy for Stage I/II Adrenocortical Carcinoma (ACC): A Retrospective Comparative Cohort Study of Laparoscopic Versus Open Approach. ►
4. Discriminating Pheochromocytomas from Other Adrenal Lesions: The Dilemma of Elevated Catecholamines. ►
5. Robotic Versus Laparoscopic Adrenalectomy for Pheochromocytoma. ►
6. Surgery for adrenocortical carcinoma in The Netherlands: analysis of the national cancer registry data. ►

7. Mutational analyses of epidermal growth factor receptor and downstream pathways in adrenocortical carcinoma. ►
8. Can established CT attenuation and washout criteria for adrenal adenoma accurately exclude pheochromocytoma? ►
9. Retroperitoneal Laparoendoscopic single-site adrenalectomy for pheochromocytoma: our single centre experiences. ►
10. Perioperative, Functional, and Oncologic Outcomes of Partial Adrenalectomy for Multiple Ipsilateral Pheochromocytomas. ►
11. Distinguishing adrenal adenomas from non-adenomas on dynamic enhanced CT: a comparison of 5 and 10 min delays after intravenous contrast medium injection. ►
12. Laparoendoscopic Single-Site Retroperitoneoscopic Adrenalectomy versus Conventional Retroperitoneoscopic Adrenalectomy: Initial Experience by the Same Laparoscopic Surgeon. ►
13. Laparoscopic Adrenalectomy for Cushing's Syndrome: a 12-year experience. ►

ADRENAL

VAKA SUNUMU

1. A rare adolescent case of female pseudohermaphroditism with adrenocortical carcinoma and synchronous teratoma. ►
2. Giant adrenal cavernous hemangioma: a rare abdominal mass. ►

NET (404 makale taranmıştır)

DERLEME

1. Gastrointestinal stromal tumour. ►
2. Current understanding of the molecular biology of pancreatic neuroendocrine tumors. ►
3. PI3K/Akt/mTOR pathway inhibitors in the therapy of pancreatic neuroendocrine tumors. ►
4. Gastroenteropancreatic endocrine tumors. ►
5. Advancements in pancreatic neuroendocrine tumors. ►
6. Systemic Treatment of Gastroenteropancreatic Neuroendocrine Tumors (GEP-NETs): Current Approaches and Future Options. ►

NET

PROSPEKTİF

1. Safety, tolerability, pharmacokinetics, and pharmacodynamics of a long-acting release (LAR) formulation of pasireotide (SOM230) in patients with gastroenteropancreatic neuroendocrine tumors: results from a randomized, multicenter, open-label, phase I study. ►

NET

RETROSPEKTİF

1. Revised Staging Classification Improves Outcome Prediction for Small Intestinal Neuroendocrine Tumors. ►
2. Gastrointestinal carcinoid: epidemiological and survival evidence from a large population-based study (n = 25 531). ►
3. High sensitivity of diffusion-weighted MR imaging for the detection of liver metastases from neuroendocrine tumors: comparison with T2-weighted and dynamic gadolinium-enhanced MR imaging. ►
4. Clinicopathologic characteristics of pancreatic neuroendocrine tumors and relation of somatostatin receptor type 2A to outcomes. ►
5. Neuroendocrine carcinoma of the stomach: morphologic and immunohistochemical characteristics and prognosis. ►
6. Clinical significance of surgery for gastric submucosal tumours with size enlargement during watchful waiting period. ►
7. Clinical and Prognostic Features of Rectal Neuroendocrine Tumors. ►
8. Epithelial-mesenchymal transition markers in the differential diagnosis of gastroenteropancreatic neuroendocrine tumors. ►
9. Serum pancreastatin: the next predictive neuroendocrine tumor marker. ►
10. Factors predictive of adverse events associated with endoscopic ultrasound-guided fine needle aspiration of pancreatic solid lesions. ►
11. Short-term outcomes and cost of care of treatment of head and neck paragangliomas. ►

TİROİD

DERLEME

1. J Clin Endocrinol Metab. 2013 Aug;98(8):3131-8. doi: 10.1210/jc.2013-1428. Epub 2013 May 28.

IF: 7.02

Primary thyroid lymphoma: a clinical review.

Stein SA, Wartofsky L.

Source

Endocrinology Division, Department of Medicine, University of Maryland School of Medicine, Baltimore, Maryland 21201, USA.

Abstract

CONTEXT:
Although primary thyroid lymphoma is a rare cause of both thyroid malignancy and extranodal lymphoma, awareness of this disease is important in order to achieve an early diagnosis and implement treatment. We review the epidemiology, clinical presentation, diagnosis, and treatment of this rare disorder.

EVIDENCE ACQUISITION:
This review is based on a search of PubMed and MDConsult for English language articles containing the term "primarythyroid lymphoma." The authors reviewed original and review articles and case series from all years of publication but focused on those published within the last 5 years.

EVIDENCE SYNTHESIS:
Primary thyroid lymphoma should be suspected in patients with a rapidly enlarging neck mass, especially in women with Hashimoto's thyroiditis. Certain ultrasound features such as enhanced posterior echoes can suggest the diagnosis, but biopsy for confirmation is ultimately needed. With advances in immunophenotypic analysis, fine-needle aspiration can be used for diagnosis in the hands of experienced physicians. The most common type of primary thyroid lymphoma is diffuse large B-cell lymphoma, which behaves in a more aggressive manner than mucosa-associated lymphoid tissue lymphoma. Radiation therapy can be employed for treatment of localized mucosa-associated lymphoid tissue lymphoma, but a combination of chemotherapy and radiation is needed for disseminated disease or aggressive histological subtypes.

CONCLUSIONS:
It is important to consider the diagnosis of primary thyroid lymphoma in patients presenting with an enlarging neck mass and a history of Hashimoto's thyroiditis. Advances in both diagnosis and treatment in recent years have altered our approach to the management of this disease.

PMID: 23714679

http://dx.doi.org/10.1210/jc.2013-1428

2. Oncologist. 2013 Sep 13. [Epub ahead of print] **IF: 4.62**

Current Understanding and Management of Medullary Thyroid Cancer.

Roy M, Chen H, Sippel RS.

Source

Department of Surgery, University of Wisconsin, Madison, Wisconsin, USA.

Abstract

Medullary thyroid cancer (MTC) typically accounts for 3%-4% of all thyroid cancers. Although the majority of MTCs are sporadic, 20% of cases are hereditary. Hereditary MTC can be found in multiple endocrine neoplasia 2A or 2B or as part of familial MTC based on a specific germline mutation in the RET: proto-oncogene. This article discusses the current approaches available for the diagnosis, evaluation, and management of patients and their family members with suspected MTC. The disease is predominantly managed surgically and typically requires a total thyroidectomy and lymph node dissection. A review of recent guidelines on the extent and timing of surgical excision is discussed. There are not very many effective systemic treatment options for MTC, but several emerging therapeutic targets have promise.

KEYWORDS:

Familial Medullary Thyroid Cancer (FMTC), Medullary Thyroid Cancer (MTC), Multiple Endocrine Neoplasia Syndrome, Prophylactic surgery in MTC, RET proto-oncogene, Serum calcitonin

PMID: 24037980

3. Expert Rev Mol Diagn. 2013 Jul;13(6):613-23. doi: 10.1586/14737159.2013.811893. **IF: 4.49**

Molecular diagnosis for indeterminate thyroid nodules on fine needle aspiration: advances and limitations.

Keutgen XM, Filicori F, Fahey TJ 3rd.

Source

Department of Surgery, Division of Endocrine Surgery, New York Presbyterian Hospital - Weill Cornell Medical Center, New York, NY 10021, USA. xmk9001@nyp.org

Abstract

Indeterminate thyroid lesions are diagnosed in up to 30% of fine needle aspirations. These nodules harbor malignancy in more than 25% of cases, and hemithyroidectomy or total thyroidectomy has therefore been advocated in order to achieve definitive diagnosis. Recently, many molecular markers have been investigated in an attempt to increase diagnostic accuracy of indeterminate fine needle aspiration cytology and thereby avoid unnecessary complications and costs associated with thyroid surgery. Somatic mutation testing, mRNA gene expression platforms, protein immunocytochemistry and miRNA panels have improved the diagnostic accuracy of indeterminate thyroid nodules, and although no test is perfectly accurate, in the authors' opinion, these methods will most certainly become an important part of the diagnostic tools for clinicians and cytopathologists in the future.

PMID: 23895130

http://dx.doi.org/10.1586/14737159.2013.811893

4. Thyroid. 2013 Sep 17. [Epub ahead of print] **IF: 3.54**

Thyroglobulin in the washout fluid of lymph node biopsy: what is its role in the follow-up of differentiated thyroidcarcinoma?

Torres MR, Nóbrega Neto SH, Rosas RJ, Martins AL, Ramos AL, da Cruz TR.

Source

Federal University of Campina Grande, Department of Endocrinology and Diabetes, Paraíba, Campina Grande, Brazil ; rosetorres.maria@gmail.com.

Abstract

Background: The clinical evaluation of enlarged local lymph nodes (LNs) is difficult at the beginning and throughout the follow-up of differentiatedthyroid carcinoma (DTC). Although the examination of samples collected from LNs by fine-needle aspiration biopsy cytology (FNAB-C) is extremely specific for the diagnosis of metastases, its sensitivity is low, especially in paucicellular samples. Abstract: Measurement of thyroglobulin (Tg) in the FNAB washout fluid (FNAB-Tg) increases the diagnostic performance of cytology to up to 100% sensitivity and specificity. However, the application of FNAB is currently hindered by the absence of methodological standardization, a lack of definite cutoff points, and the ongoing debate regarding its accuracy in non-thyroidectomized patients, those with elevated serum Tg, and those with circulating anti-Tg antibodies. Conclusion: FNAB-Tg improves the diagnostic performance of FNAB-C in LN metastases, even when the latter is unable to diagnose the metastases. For that reason, FNAB-Tg must be included in the monitoring of DTC.

PMID: 24044517

5. Endocr J. 2013 Sep 25. [Epub ahead of print] **IF: 2.23**

Therapeutic strategy for low-risk thyroid cancer in Kanaji Thyroid Hospital [Review].

Kammori M, Fukumori T, Sugishita Y, Hoshi M, Yamada T.

Source

Department of Surgery, Kanaji Thyroid Hospital, Tokyo 114-0015, Japan.

Abstract

It is well-known that differentiated thyroid carcinoma (DTC) has a generally indolent character and shows a favorable prognosis in comparison with many other carcinomas. The therapeutic strategy for patients with DTC in Japan has differed from that in Western countries. Total thyroidectomy followed by radioactive iodine (RAI) ablation has been standard in Western countries, whereas limited hemi-thyroidectomy and subtotal thyroidectomy has been extensively accepted in Japan. Papillary thyroid carcinoma (PTC) accounts for over 90% of all thyroid cancers in Japan. The majority of patients with PTC are categorized into a low-risk group on the basis of the recent risk-group classification schemes, and they show excellent outcomes. Several management guidelines for thyroid cancers have been published in Western countries. However, the optimal therapeutic options for PTC remain controversial, and high-level clinical evidence aimed at resolving these issues is lacking. Moreover, as socioeconomic differences in medical care exist, conventional policies for the treatment of PTC have differed between Japan and other countries. This review focuses on the special features of treatment in Japan for patients with low-risk DTC involving subtotal thyroidectomy without adjuvant therapies, rather than total thyroidectomy with RAI, with the aim of

preserving quality of life. At our institution in Japan, we have had extensive experience with RAI treatment for high-risk DTC patients, and this represents a very rare situation. Here we introduce the therapeutic strategy for low-risk thyroid cancer in Japan, including the measures adopted at our institution.

PMID: 24067543

6. J Intensive Care Med. 2013 Aug 5. [Epub ahead of print] **IF: 2.08**

Thyroid Storm: An Updated Review.

Chiha M, Samarasinghe S, Kabaker AS.

Source

Division of Endocrinology and Metabolism, Department of Medicine, Loyola University Medical Center, Maywood, IL, USA.

Abstract

Thyroid storm, an endocrine emergency first described in 1926, remains a diagnostic and therapeutic challenge. No laboratory abnormalities are specific to thyroid storm, and the available scoring system is based on the clinical criteria. The exact mechanisms underlying the development ofthyroid storm from uncomplicated hyperthyroidism are not well understood. A heightened response to thyroid hormone is often incriminated along with increased or abrupt availability of free hormones. Patients exhibit exaggerated signs and symptoms of hyperthyroidism and varying degrees of organ decompensation. Treatment should be initiated promptly targeting all steps of thyroid hormone formation, release, and action. Patients who fail medical therapy should be treated with therapeutic plasma exchange or thyroidectomy. The mortality of thyroid storm is currently reported at 10%. Patients who have survived thyroid storm should receive definite therapy for their underlying hyperthyroidism to avoid any recurrence of this potentially fatal condition.

KEYWORDS:

hyperthyroidism, therapeutic plasma exchange, thyroid crisis, thyroid storm, thyrotoxicosis

PMID: 23920160

7. Am J Otolaryngol. 2013 Aug 28. pii: S0196-0709(13)00164-6. doi: 0.1016/j.amjoto.2013.07.008. [Epub ahead of print] **IF: 1.25**

Anaplastic thyroid cancer in young patients: A contemporary review.

Li M, Milas M, Nasr C, Brainard JA, Khan MJ, Burkey BB, Scharpf J.

Source

Head and Neck Institute, Cleveland Clinic Foundation, Cleveland, OH.

Abstract

PURPOSE:

Little is known about prognostic factors and treatment outcomes in young patients with anaplastic thyroid cancer (ATC). The goal of this study is to define the clinical features of this subgroup.

MATERIAL AND METHODS:

Patients age 55 or younger with either ATC or well-differentiated thyroid cancer (WDTC) with anaplastic changes were identified using electronic medical record at the Cleveland Clinic. The same number of patients older than 55 was randomly selected to serve as control. Progression-free survival (PFS), overall survival time (OST) and cause-specific mortality (CSM) were measured against age, tumor histology, extent of disease, and treatment modalities.

RESULTS:
Twelve patients age 55 or younger were identified. The median age was 51years. Four patients had WDTC with anaplastic components - mixed tumor group (MTG). Their median PFS, OST, and CSM at 24months were 21.5months, 51months, and 25%, respectively. For the other 8 patients who had pure ATC, their median PFS, OST, and CSM were 3.5months, 6months, and 100%, respectively. Patients in the MTG had better survival compared to the pure ATC and control group in terms of PFS (p=0.0047 and p=0.0053), OST (p=0.0028 and p=0.0029) and the CSM at 24months (p=0.0339 and p=0.0096). In the pure ATC group, patients with positive cervical lymph node and distant metastases had similar overall survival outcomes (6 vs. 8months, p=0.4995).

CONCLUSION:
Prognostic factors favoring survival in young patients with ATC include ATC arising within WDTC. Once full anaplastic transformation occurs, age was not a significant factor in survival.

PMID: 23993450
http://dx.doi.org/0.1016/j.amjoto.2013.07.008

8. Minerva Ginecol. 2013 Aug;65(4):471-84. **IF: 0.90**

Screening for thyroid disease in pregnancy: a review.

Cassar NJ, Grima AP, Ellul GJ, Schembri-Wismayer P, Calleja-Agius J.

Source

Department of Anatomy, Faculty of Medicine and Surgery, University of Malta, Tal-Qroqq, Msida MSD, Malta - jean.calleja-agius@um.edu.mt.

Abstract

Screening for thyroid disease in pregnancy remains a contentious issue. This review presents these diverging views and discusses their reasons as well as the relevant facts. The final aim is to establish the information gaps and limitations - technological or otherwise - which still need to be eliminated in order to settle the debate conclusively. The prevalence of the more common thyroid dysfunctions that occur in and after pregnancy is discussed. The subsequent impact of these disorders on mother and offspring is also described. Special focus is placed on the benefits and setbacks of currently available and newly proposed investigations, which assay serum hormone levels, serum autoantibody levels, and/or use clinical data. It is pointed out that the relevance of screening varies from one region of the world to the other, based on the content of iodine and selenium in food and water. The review then discusses the current major arguments for and against screening, as well as recommendations and proposed alternatives.

PMID: 24051947

TİROİD

PROSPEKTİF

1. J Clin Endocrinol Metab. 2013 Sep 24. [Epub ahead of print] **IF: 7.02**

COMPARISON OF ELASTOGRAPHIC STRAIN INDEX AND THYROID FINE-NEEDLE ASPIRATION CYTOLOGY IN 631 THYROID NODULES.

Magri F, Chytiris S, Capelli V, Gaiti M, Zerbini F, Carrara R, Malovini A, Rotondi M, Bellazzi R, Chiovato L.

Source

Unit of Internal Medicine and Endocrinology, Fondazione Salvatore Maugeri IRCCS; University of Pavia, Pavia, Italy (F.M., SC, V.C., M.G., F.Z., R.C., M.R., L.C.); and Laboratorio di Informatica e Sistemistica per la Ricerca Clinica, IRCCS Fondazione S.Maugeri, Pavia (A.M., R.B.).

Abstract

Context:Ultrasound (US) elastography (USE) was recently reported as a sensitive, non-invasive tool for identifying thyroid cancer. However, the accuracy of this technique is hampered by the intra- and inter-operator variability, some US features of the nodule and by the coexistence of autoimmune thyroid disease (ATD).Objectives:to assess the accuracy of USE in the differential diagnosis of thyroid nodules as compared with other US features, to evaluate its feasibility in the presence of ATD, to identify the strain index (SI) cut-off with the highest diagnostic performance.Design:528 consecutive patients for a total of 661 thyroid nodules were evaluated. All nodules underwent fine-needle aspiration cytology (FNAC) and USE evaluation. The SI was calculated as a ratio of the nodule strain divided by the strain of the softest part of the surrounding normal tissue.Results:The median SI value was significantly higher in THY4 and THY5 than in THY2 nodules in ATD-positive, ATD-negative and ATD-unknown patients. The cut-off of SI for malignancy was estimated at 2.905 by ROC curve analysis in a screening set (379 FNAC results), and then tested in a replication set (252 FNAC results). In all cases, a SI ≥ 2.905 conferred to the nodule a significantly greater probability of being malignant. This SI cut-off had the greatest AUC, sensitivity and NPV, compared to the conventional US features of malignancy.Conclusion:The elastographic SI has a high sensitivity, specificity and negative predictive value for the diagnosis of thyroid malignancy both in the presence and in the absence of ATD. If our data on USE will be confirmed also in THY3 nodules, FNAC could be avoided in a consistent number of thyroid nodules.

PMID: 24064692

2. Eur J Nucl Med Mol Imaging. 2013 Aug 2. [Epub ahead of print] **IF: 4.82**

SPECT/CT sentinel lymph node identification in papillary thyroid cancer: lymphatic staging and surgical management improvement.

Garcia-Burillo A, Roca Bielsa I, Gonzalez O, Zafon C, Sabate M, Castellvi J, Serres X, Iglesias C, Vilallonga R, Caubet E, Fort JM, Mesa J, Armengol M, Castell-Conesa J.

Source

Hospital Universitari Vall d'Hebron, Universitat Autònoma de Barcelona, Barcelona, Spain, ampagarcia@vhebron.net.

Abstract

PURPOSE:
Lymphadenectomy in papillary thyroid carcinoma (PTC) continues to be controversial. A better staging method is needed to provide adequate individual surgical treatment. SPECT/CT lymphoscintigraphy and sentinel lymph node (SLN) biopsy may improve lymphatic staging and surgical treatment. Our main objectives were to describe the lymphatic drainage of PTC using lymphoscintigraphy, to evaluate the lymphatic spread (comparing SLN and lymphadenectomy results) and to analyse the impact of SLN identification in surgery.

METHODS:
We prospectively studied 24 consecutive patients with PTC (19 women; mean age 52.7 years, range 22-81 years). The day before surgery, lymphoscintigraphy with ultrasound-guided intratumoral injection (^{99m}Tc-nanocolloid, 148 MBq) was performed, obtaining planar and SPECT/CT images. All patients underwent total thyroidectomy, SLN biopsy (hand-held gamma probe) with perioperative analysis, central compartment node dissection, or laterocervical lymphadenectomy if perioperative stage N1b or positive SLNs in this lymphatic basin.

RESULTS:
Lymphoscintigraphy revealed at least one SLN in 19 of 24 patients (79 %) on planar and SPECT/CT images, and in 23 of 24 patients (96 %) during surgery using a hand-held gamma probe. Lymph node metastases were detected with classical perioperative techniques (ultrasound guidance and surgical inspection) in 3 of 24 patients, by perioperative SLN analysis in 10 of 23, and by definitive histology in 13 of 24. The false-negative (FN) ratio for SLN was 7.7 % (one patient with bulky lymph nodes). The FN ratio for perioperative frozen sections was 15.4 % (two patients, one with micrometastases, the other with bilateral SLN). Lymphatic drainage was only to the central compartment in 6 of 24 patients (3 of the 6 with positive SLNs for metastases), only to the laterocervical basin in 5 of 24 patients (all unilateral, 2 of 5 positive SLNs) and to the central and laterocervical compartments in 12 of 24 patients (6 of 12 and 3 of 12 positive SLNs, respectively).

CONCLUSION:
Lymphoscintigraphy reveals the lymph node drainage in a high proportion of patients. It detects laterocervical drainage in a significant percentage of patients, allowing the detection of occult lymph node metastases and improving the surgical management in PTC.

PMID: 23907326

3. Surgery. 2013 Aug 23. pii: S0039-6060(13)00341-3. doi: 10.1016/j.surg.2013.06.019. [Epub ahead of print] **IF: 3.19**

Prospective screening in familial nonmedullary thyroid cancer.

Sadowski SM, He M, Gesuwan K, Gulati N, Celi F, Merino MJ, Nilubol N, Kebebew E.

Source

Endocrine Oncology Branch, National Cancer Institute, National Institutes of Health, Bethesda, MD. Electronic address: samira.sadowskiveuthey@nih.gov.

Abstract

BACKGROUND:
Approximately 8% of nonmedullary thyroid cancers are familial. The optimal age for screening in familial nonmedullary thyroid cancer (FNMTC) is unknown.

METHODS:
Kindreds with FNMTC (2 or more first-degree relatives affected) were screened prospectively with thyroid ultrasonography.

RESULTS:
Fifteen kindreds showed an overall prevalence of thyroid nodule(s) ≥5 mm of 44% at screening; 19% in the second generation, and 90% in the generation anterior to the index case. The youngest age of detection was 10 years for thyroid nodules and 18 years for thyroid cancer. Microcalcification of thyroid nodules at screening was associated with a greater risk of cancer ($P < .05$). Family members diagnosed with thyroidcancer by ultrasonographic screening were diagnosed at a younger age and had a lower rate of extra thyroidal invasion ($P < .05$).

CONCLUSION:
In FNMTC, first-degree relatives 10 years or older, including the generation anterior to the index case, should have thyroid screening by ultrasonography, which may result in earlier diagnosis.

PMID: 23978593
http://dx.doi.org/10.1016/j.surg.2013.06.019

4. J Clin Pathol. 2013 Jul;66(7):583-8. doi: 10.1136/jclinpath-2012-201339. Epub 2013 Mar 26. **IF: 2.82**

A simplified economic approach to thyroid FNA cytology and surgical intervention in thyroid nodules.

Poller DN, Kandaswamy P.

Source

Department of Pathology, Queen Alexandra Hospital, Portsmouth, UK. david.poller@porthosp.nhs.uk

Abstract

OBJECTIVE:
Few studies have modelled the economics of thyroid FNA.

METHODS:
A simple spreadsheet economic model for delivery of thyroid fine needle aspiration (FNA) cytology is described using the UK Royal College of Pathologists' Classification for thyroid FNA which is based on The Bethesda System for Reporting Thyroid Cytopathology.

RESULTS:
We show an estimated 27.8% cost treatment reduction per patient if low rates of non-diagnostic for cytological diagnosis (Thy 1) and neoplasm possible atypia/non-diagnostic (Thy 3a) are achieved, which require rapid onsite FNA adequacy assessment of aspiration samples. If we assume that the number of thyroid FNAs performed in the UK annually is around 500 per million, and the UK population is 62 million, this could save the UK National Health Service significant sums, as the additional cost per patient treated in this model varies from £781 for a scenario with ultrasound guided FNA and inclinic cell adequacy assessment to £998 where aspirates are taken in conventional fashion without any inclinic adequacy assessment.

CONCLUSIONS:
This model makes a strong economic case for the introduction of rapid onsite assessment of thyroid FNA across cancer networks, to improve the diagnostic efficacy of thyroid FNA.

KEYWORDS:

Cancer, Cytology, Diagnosis, Surgery, Thyroid

PMID: 23533260

http://dx.doi.org/10.1136/jclinpath-2012-201339

5. Am J Surg. 2013 Sep 23. pii: S0002-9610(13)00441-8. doi: 10.1016/j.amjsurg.2013.05.005. [Epub ahead of print] **IF: 2.39**

Quality of life after thyroid surgery in women with benign euthyroid goiter: influencing factors including Hashimoto's thyroiditis.

Promberger R, Hermann M, Pallikunnel SJ, Seemann R, Meusel M, Ott J.

Source

Second Department of Surgery "Kaiserin Elisabeth", Krankenanstalt Rudolfstiftung, Vienna, Austria; Department of Surgery, Medical University of Vienna, Vienna, Austria.

Abstract

BACKGROUND:
Hashimoto's thyroiditis is associated with decreased quality of life (QoL). Thyroid surgery could hypothetically lead to an increase in QoL.

METHODS:
In a follow-up analysis of a prospective cohort study that included euthyroid women undergoing thyroid surgery for benign thyroid disease, 248 patients were willing to answer the SF-36 QoL questionnaire.

RESULTS:
At follow-up after a median of 26 months, only the SF-36 module of "bodily pain" had increased (P = .046). Preoperative anti-thyroidperoxidase antibody levels were positively correlated with increasing QoL in the SF-36 modules "bodily pain" (P < .001) and "role emotional" (P < .001). For the presence of histologically

confirmed Hashimoto's thyroiditis, a significant positive correlation (P < .001) was found for all modules apart from "physical functioning."

CONCLUSIONS:
In women with benign euthyroid goiter, thyroid surgery does not lead to an overall improvement in health-related QoL. It should not be recommended for patients with elevated anti-thyroid peroxidase antibody levels. Patients with histologically confirmed Hashimoto's thyroiditis might benefit in terms of QoL.

KEYWORDS:

Anti–thyroid peroxidase antibodies, Autoimmune thyroiditis, Hashimoto's thyroiditis, Quality of life, Thyroidectomy

PMID: 24070662

http://dx.doi.org/10.1016/j.amjsurg.2013.05.005

6. J Comput Assist Tomogr. 2013 Jul-Aug;37(4):505-10. doi: 10.1097/RCT.0b013e31828d28f0. **IF: 1.75**

Utility of diffusion-weighted imaging in differentiating malignant from benign thyroid nodules with magnetic resonance imaging and pathologic correlation.

Shi HF, Feng Q, Qiang JW, Li RK, Wang L, Yu JP.

Source

Department of Radiology, Jinshan Hospital, Shanghai Medical College, Fudan University, Shanghai, China.

Abstract

OBJECTIVE:
The objective of this study was to evaluate the role of magnetic resonance diffusion-weighted imaging (DWI) in differentiating malignant from benign thyroid nodules.

METHODS:
The prospective study included 111 consecutive patients with solitary thyroid nodules (23 malignant and 88 benign nodules) who underwent DWI. The DWI signal and apparent diffusion coefficient (ADC) values of the nodules were determined and correlated with the histopathologic findings.

RESULTS:
The majority (65%) of malignant thyroid nodules showed slightly hyperintense, and the majority (69%) of benign nodules were hyperintense on DWI (P < 0.01). The ADC values were lower in the thyroid cancer than in the adenoma and nodular goiter (P < 0.05). When the b factor was 500 s/mm, an ADC value of 1.704 × 10 mm/s can be threshold differentiating malignant from benign nodules, with 92% sensitivity, 88% specificity, and 87% accuracy. The higher cell density and more severe desmoplastic response were the causes of the lower ADC value of thyroid cancer.

CONCLUSION:
Diffusion-weighted imaging can be a promising noninvasive imaging to discriminate malignant from benign nodules.

PMID: 23863524

http://dx.doi.org/10.1097/RCT.0b013e31828d28f0

7. Updates Surg. 2013 Aug 29. [Epub ahead of print] **IF: 1.13**

Sutureless thyroidectomy with energy-based devices: Cerrahpasa experience.

Teksoz S, Bukey Y, Ozcan M, Arikan AE, Ozyegin A.

Source

Cerrahpasa Medical Faculty, Department of General Surgery, Istanbul University, Fatih/Istanbul, 34098, Turkey, serkanteksoz@gmail.com.

Abstract

Total thyroidectomy makes up the majority of all thyroidectomy cases. Energy-based advanced vessel-sealing devices which were developed in recent years for the control of vascular pedicles allowed significant progress in thyroid surgery. This study is designed to compare the efficiency and safety of the two energy-based vessel-sealing devices (Ligasure™ LF1212 and Harmonic FOCUS®) in sutureless thyroidectomy. Two hundred and forty-five consecutive patients underwent sutureless total thyroidectomy. Patients were randomized for the Ligasure™ LF1212 (n = 126) or Harmonic FOCUS® (n = 119). The parameters of demographics, surgical indications, morbidity, incision length, duration of operation, weight of specimen, amount of drainage, postoperative pain, hospital stay, and histopathology of specimen were recorded. Mean duration of operation was 37.98 ± 14.98 min (16-92 min) and was significantly shorter for Harmonic FOCUS® ($p < 0.001$). Mean hospital stay was 1.09 ± 0.3 (1-3) days. Morbidity rate was 9.8 % in total, whereas no mortality was observed. In terms of morbidity rates, no significant difference was determined between the two groups ($p = 0.476$). In both groups, there was no need for extra analgesic application other than the routine given after surgery. According to our experience, sutureless thyroidectomy can be performed with low morbidity rates in secure and efficient way.

PMID: 23990508

8. Health Phys. 2013 Aug;105(2):187-91. doi: 10.1097/HP.0b013e318290cc0e. **IF: 0.99**

Comparison of measured and calculated dose rates near nuclear medicine patients.

Yi Y, Stabin MG, McKaskle MH, Shone MD, Johnson AB.

Source

Institute of Radiation Medicine, Fudan University, No. 2094, Xietu Road, Shanghai, 200032, PR China. ylyi@fudan.edu.cn

Abstract

Widely used release criteria for patients receiving radiopharmaceuticals (NUREG-1556, Vol. 9, Rev.1, Appendix U) are known to be overly conservative. The authors measured external exposure rates near patients treated with I, Tc, and F and compared the measurements to calculated values using point and line source models. The external exposure dose rates for 231, 11, and 52 patients scanned or treated with I, Tc, and F, respectively, were measured at 0.3 m and 1.0 m shortly after radiopharmaceutical administration. Calculated values were always higher than measured values and suggested the application of "self-shielding factors," as suggested by Siegel et al. in 2002. The self-shielding factors of point and line source models for I at 1 m were 0.60 ± 0.16 and 0.73 ± 0.20, respectively. For Tc patients, the self-

shielding factors for point and line source models were 0.44 ± 0.19 and 0.55 ± 0.23, and the values were 0.50 ± 0.09 and 0.60 ± 0.12, respectively, for F (all FDG) patients. Treating patients as unshielded point sources of radiation is clearly inappropriate. In reality, they are volume sources, but treatment of their exposures using a line source model with appropriate self-shielding factors produces a more realistic, but still conservative, approach for managing patient release.

PMID: 23799503

http://dx.doi.org/10.1097/HP.0b013e318290cc0e

TİROİD

RETROSPEKTİF

1. J Clin Endocrinol Metab. 2013 Sep;98(9):3702-12. doi: 10.1210/jc.2013-1584. Epub 2013 Aug 22.

IF: 7.02

Does BRAF V600E Mutation Predict Aggressive Features in Papillary Thyroid Cancer? Results From Four Endocrine Surgery Centers.

Li C, Aragon Han P, Lee KC, Lee LC, Fox AC, Beninato T, Thiess M, Dy BM, Sebo TJ, Thompson GB, Grant CS, Giordano TJ, Gauger PG, Doherty GM, Fahey TJ 3rd, Bishop J, Eshleman JR, Umbricht CB, Schneider EB, Zeiger MA.

Source

MD,Oncology, and Cellular and Molecular Medicine, Chief of Endocrine Surgery, Johns Hopkins Hospital, 600 North Wolfe Street, Department of Surgery, Blalock 606, Baltimore, Maryland 21287. mzeiger@jhmi.edu.

Abstract

Background: Existing evidence is controversial regarding the association between BRAF mutation status and aggressive features of papillary thyroidcancer (PTC). Specifically, no study has incorporated multiple surgical practices performing routine central lymph node dissection (CLND) and thus has patients who are truly evaluable for the presence or absence of central lymph node metastases (CLNMs). Methods: Consecutive patients who underwent total thyroidectomy and routine CLND at 4 tertiary endocrine surgery centers were retrospectively reviewed. Descriptive and bivariable analyses examined demographic, patient, and tumor-related factors. Multivariable analyses examined the odds of CLNM associated with positive BRAF status. Results: In patients with classical variant PTC, bivariate analysis found no significant associations between BRAF mutation and aggressive clinicopathologic features; multivariate analysis demonstrated that BRAF status was not an independent predictor of CLNM. When all patients with PTC were analyzed, including those with aggressive or follicular subtypes, bivariate analysis showed BRAF mutation to be associated with LNM, advanced American Joint Committee on Cancer (AJCC) stage, and histologic subtype. Multivariable analyses showed BRAF, age, size, and extrathyroidal extension to be associated with CLNM. Conclusion: Although BRAF mutation was found to be an independent predictor of central LNM in the overall cohort of patients with PTC, this relationship lost significance when only classical variant PTC was included in the analysis. The usefulness of BRAF in predicting the presence of LNM remains questionable. Prospective studies are needed before BRAF mutation can be considered a reliable factor to guide the treatment of patients with PTC, specifically whether to perform prophylactic CLND.

PMID: 23969188

http://dx.doi.org/10.1210/jc.2013-1584

2. Radiology. 2013 Jul;268(1):274-80. doi: 10.1148/radiol.13122247. Epub 2013 Mar 22. **IF: 6.40**

Thyroid nodules with initially nondiagnostic cytologic results: the role of core-needle biopsy.

Yeon JS, Baek JH, Lim HK, Ha EJ, Kim JK, Song DE, Kim TY, Lee JH.

Source

Department of Radiology and Research Institute of Radiology, University of Ulsan College of Medicine, Asan Medical Center, 86 Asanbyeongwon-Gil, Songpa-Gu, Seoul 138-736, Korea.

Abstract

PURPOSE:
To evaluate the role of core-needle biopsy (CNB) in thyroid nodules with nondiagnostic results at previous fine-needle aspiration (FNA).

MATERIALS AND METHODS:
From October 2008 to July 2011, 155 nodules from 155 patients (37 men, 118 women) with a mean age of 51.8 years (age range, 22-76 years) with nondiagnostic results at previous FNA were reviewed retrospectively. The Bethesda system for reporting thyroid cytopathologic results was used to assign FNA and CNB findings. Malignant nodules (n = 37) were diagnosed after surgery. Benign nodules (n = 79) were diagnosed either after surgery, with benign findings after FNA and/or CNB that had been repeated at least twice, or after benign cytology findings at FNA or CNB with a stable size at follow-up. The sensitivity, specificity, positive predictive value, negative predictive value, and accuracy of ultrasonographically guided CNB were evaluated.

RESULTS:
At CNB, two nodules (1.3%) showed nondiagnostic results, and 135 nodules (87.1%) had conclusive diagnoses. The sensitivity, specificity, positive predictive value, negative predictive value, and accuracy of core biopsies for the detection of malignancy were 94.6% (35 of 37), 100% (79 of 79), 100% (35 of 35), 97.5% (79 of 81), and 98.3% (114 of 116), respectively. For 28 nodules, nondiagnostic results were found after two or more FNA procedures; however, diagnostic surgery was performed in only one patient.

CONCLUSION:
CNB of the thyroid nodule demonstrates high rates of conclusive and accurate diagnoses in patients for whom previous FNA results were nondiagnostic, thereby reducing the need for unnecessary diagnostic surgery.

PMID: 23525204
http://dx.doi.org/10.1148/radiol.13122247

3. Am J Surg Pathol. 2013 Aug;37(8):1215-22. doi: 10.1097/PAS.0b013e318283b7b2. **IF:5.53**

Napsin A expression in anaplastic, poorly differentiated, and micropapillary pattern thyroid carcinomas.

Chernock RD, El-Mofty SK, Becker N, Lewis JS Jr.

Source

Department of Pathology and Immunology, Washington University School of Medicine, St Louis, MO, USA. rchernock@path.wustl.edu

Abstract

Napsin A is a sensitive and specific marker for pulmonary adenocarcinoma versus squamous cell carcinoma. However, studies have shown that napsin A is also positive in approximately 5% of papillary thyroid carcinomas. The prevalence of napsin A in more aggressive types of thyroid carcinoma is unknown. Napsin A positivity in metastatic thyroid carcinoma, especially in conjunction with thyroid transcription factor-1 (TTF-1), could be misdiagnosed as lung adenocarcinoma. We investigated napsin A, TTF-1, and PAX8 expression in 26 anaplastic, 16 poorly differentiated, and 2 micropapillary pattern thyroid carcinomas. A focal micropapillary component was also present in 3 poorly differentiated and 3 anaplastic thyroid carcinomas. Four of 26 (15%) anaplastic, 2/16 (13%) poorly differentiated, and 2/2 (100%) micropapillary pattern thyroid carcinomas were napsin A positive. Three of the 6 cases (50%) with a focal micropapillary component were napsin A positive (1 of these 3 cases was positive only in the micropapillary component). All napsin A-positive cases were also positive for TTF-1, and all but 1 micropapillary pattern carcinoma were also PAX8 positive. In 1 case, napsin A was positive in the micropapillary component, but PAX8 was only positive in the adjacent poorly differentiated carcinoma. In summary, a minority of anaplastic and poorly differentiated thyroid carcinomas are napsin A positive. More importantly, napsin A expression is more common in carcinomas with a micropapillary component, a pattern shared in common with some lung adenocarcinomas. PAX8 may be diagnostically useful to distinguish these napsin A-positive thyroid carcinomas from lung adenocarcinomas, which are PAX8 negative.

PMID: 23681073

http://dx.doi.org/10.1097/PAS.0b013e318283b7b2

4. J Am Coll Surg. 2013 Jul;217(1):81-8; discussion 88-9. doi: 10.1016/j.jamcollsurg.2013.03.014. Epub 2013 May 6. **IF: 4.11**

The biopsy-proven benign thyroid nodule: is long-term follow-up necessary?

Lee S, Skelton TS, Zheng F, Schwartz KA, Perrier ND, Lee JE, Bassett RL, Ahmed S, Krishnamurthy S, Busaidy NL, Grubbs EG.

Source

Section of Surgical Endocrinology, Department of Surgical Oncology, The University of Texas MD Anderson Cancer Center, Houston, TX, USA.

Abstract

BACKGROUND:

Thyroid nodules are common, and of those biopsied by fine-needle aspiration (FNA), the majority will be benign colloid nodules (BCN). Current guidelines suggest these BCN should be followed by ultrasonographic examination (US) every 3 years, with no endpoint specified. This study evaluated if long-term follow-up of benign thyroid nodules was associated with change in treatment or improvement in diagnosing a missed malignancy compared with short-term follow-up.

STUDY DESIGN:

All patients with FNA-based diagnosis of BCN at our institution from 1998 to 2009 were identified. Patients observed after the diagnosis were divided into short-term follow-up (<3 years) and long-term follow-up (≥3 years). Rates of repeat FNA, thyroidectomy, and malignancy detection were compared.

RESULTS:

Of 738 patients with BCN, 92 patients underwent thyroid resection after the initial US. Six hundred forty-six patients were observed, of which 366 returned for 1 or more follow-up US: 226 in the short-term group (median 13 months) and 140 in the long-term group (median 57 months). There were more follow-up US in long-term vs short-term (medians 4 vs 2, $p < 0.01$), more repeat FNAs in the long-term group (18 of 140 vs 8 of 226, $p < 0.01$); but no difference in interval thyroidectomies (13 of 140 vs 31 of 226, $p = 0.25$) or

malignant final pathology (0 of 13 vs 2 of 31, p > 0.99). For all patients undergoing surgery, pathology was malignant in 2 of 136 (1.5%).

CONCLUSIONS:
Long-term follow-up of patients with BCN is associated with increased repeat FNA and US without improvement in the malignancy detection rate. After 3 years of follow-up, consideration should be given to ceasing long-term routine follow-up of biopsy-proven BCN.

PMID: 23659946
http://dx.doi.org/10.1016/j.jamcollsurg.2013.03.014

5. Thyroid. 2013 Sep 16. [Epub ahead of print] **IF:3.84**

High-Risk Patients with Differentiated Thyroid Cancer T4 Primary Tumors Achieve Remnant Ablation Equally Well Using rhTSH or Thyroid Hormone Withdrawal.

Bartenstein P, Calabuig EC, Maini C, Mazzarotto R, Muros de Fuentes MA, Petrich T, Rodrigues F, Vallejo Casas JA, Vianello F, Basso M, Balaguer MG, Haug A,Monari F, Vano RS, Sciuto R, Magner J.

Source

Klinikum der Universitat Munchen, Nuklearmedizin, Munchen, Germany ; peter.bartenstein@med.uni-muenchen.de.

Abstract

Background: Few data exist on using rhTSH with radioiodine for thyroid remnant ablation of patients who had T4 primary tumors (invasion beyond thethyroid capsule). Methods: A retrospective chart review protocol at nine centers in Europe was set up with special waiver of need for informed consent, and a careful procedure to avoid selection bias when enrolling patients into the data base. Data on 144 eligible patients with T4 tumors were collected (T4, N0-1, M0-1; mean age 49.7 years; 65% female; 88% papillary cancer). All had received 131I remnant ablation following TSH stimulation with rhTSH or thyroid hormone withdrawal (THW) since January, 2000 (rhTSH n = 74, THW n = 70). The primary endpoint was based on evaluation of diagnostic radioiodine scan thyroid bed uptake > 6 months after the ablation procedure, while stimulated serum Tg was a secondary endpoint. Safety was evaluated within 30 days after rhTSH or 131I. Results: Successful ablation judged by scan was achieved in 65/70 (92.9%) of rhTSH and in 61/67 (91.0%) of THW patients; the success rates were comparable since non-inferiority criteria were met. Although some patients in the initial cohort had tumor in cervical nodes and metastases, considering all evaluable patients regardless of various serum anti-Tg antibody assessments, the stimulated Tg was < 2 ng/mL in 48/70 (68.6%) and 39/67 (58.2%) in rhTSH and THW groups, respectively; if patients with anti-Tg antibody levels > 30 IU/mL were excluded, the stimulated Tg was < 2 ng/mL in 42/62 (67.7%) and 37/64 (57.8%), respectively. No serious adverse events occurred within the 30 day window after ablation. Conclusions: Use of rhTSH as preparation for thyroid remnant ablation in patients with T4 primary tumors achieved a rate of ablation success that was high and non-inferior to the rate seen after THW, and rhTSH was well-tolerated.

PMID: 24040896

6. Clin Endocrinol (Oxf). 2013 Jul 29. doi: 10.1111/cen.12301. [Epub ahead of print] **IF: 3.75**

Impact of early vs late postoperative radioiodine remnant ablation on final outcome in patients with low-risk well-differentiated thyroid cancer.

Tsirona S, Vlassopoulou V, Tzanela M, Rondogianni P, Ioannidis G, Vassilopoulos C, Botoula E, Trivizas P, Datseris I, Tsagarakis S.

Source

Department of Endocrinology, Diabetes and Metabolism, Evangelismos Hospital, Athens, Greece.

Abstract

OBJECTIVE:
Postoperative radioiodine remnant ablation (RRA) represents an adjunctive therapeutic modality in patients with differentiated thyroidcancer (DTC). The impact of late vs early RRA on the outcome of DTC is currently unclear. The aim of the study was to evaluate the outcome of patients with DTC according to RRA timing.

DESIGN RETROSPECTIVE STUDY PATIENTS:
A total of 107 TNM stage 1 DTC patients were divided into two groups. In group A (n = 50), RRA was administered in less than 4·7 months median 3·0 (range 0·8-4·7), while in group B (n = 57) in more than 4·7 months median 6 (4·8-30·3) after thyroidectomy. Remission was achieved when stimulated serum Tg levels were undetectable, in the absence of local recurrence or cervical lymph node metastases on the neck ultrasound.

RESULTS:
All patients underwent near-total thyroidectomy. The mean age at diagnosis was 49·3 years (range: 18-79 years). There were no statistically significant differences in the histological subtype, the TNM stage, the dose of radioiodine and the time of follow-up, between the two groups. After the RRA treatment, 44 group A patients (88%) were in remission and 6 (12%) in persistence; while in group B, 52 (91·2%) were in remission, 1 (1·8%) in persistence and 4 (7%) in recurrence. At their latest follow-up median 87·3 (23·3-251·6 months), all patients were in remission, either as a result of further iodine radioiodine therapy (in 11 patients) or watchful monitoring.

CONCLUSIONS:
The timing of RRA seems to have no effect on the long-term outcome of the disease. Therefore, urgency for radioiodine ablation in patients with low-risk thyroid cancer is not recommended.

PMID: 23895145

http://dx.doi.org/10.1111/cen.12301

7. Eur J Endocrinol. 2013 Sep 19. [Epub ahead of print] **IF: 3.64**

ARE PROGNOSTIC SCORING SYSTEMS OF VALUE IN PATIENTS WITH FOLLICULAR THYROID CARCINOMA?

Rios A, Rodríguez J, Ferri B, Martinez-Barba E, Febrero B, Parrilla P.

Source

A Rios, Surgery, Hospital Universitario Virgen de la Arrixaca, Murcia, 30007, Spain.

Abstract

PURPOSE. MOST PROGNOSTIC SYSTEMS FOR DIFFERENTIATED CARCINOMA HAVE BEEN DESIGNED FOR PAPILLARY CARCINOMA. OBJECTIVE: To analyze the value of the existing prognostic systems to follicular carcinoma, and to determine if any of them have a better predictive effect. METHODS. A TOTAL OF 66 FOLLICULAR CARCINOMAS WERE ANALYZED.

THE FOLLOWING PROGNOSTIC SYSTEMS WERE STUDIED:
the EORTC; AGES; AMES; MACIS; TNM and the NTCTCS systems.Results. The AGES and AMES systems were the only ones which had not a good prognostic correlation. The EORTC system showed that at five years, 89% of patients in group 1 were disease-free; in group 2, 75 %; in group 3, 69%; and in 4, 0%. The MACIS system showed 83%, 60%, 67% and 0%, respectively. The TNM system showed 81%, 71%, 50%, and 0%. Finally, the NTCTCS system demonstrated 100%, 84%, 53% and 0%. Cox's regression analysis and the proportion of variation in survival time explained (PVE) were calculated. The prognostic classification was EORTC at 67.64% of the PVE; followed by the TNM system (62.5%) and the MACIS (57.82%).Conclusions. The MACIS and TNM systems were good prognostic systems for evaluating follicular thyroid carcinoma, although the one with the most prognostic value was the EORTC system.

PMID: 24050927

8. Eur J Endocrinol. 2013 Jun 1;169(1):23-9. doi: 10.1530/EJE-12-0954. Print 2013 Jul. **IF: 3.64**

Post-surgical thyroid ablation with low or high radioiodine activities results in similar outcomes in intermediate risk differentiated thyroid cancer patients.

Castagna MG, Cevenini G, Theodoropoulou A, Maino F, Memmo S, Claudia C, Belardini V, Brianzoni E, Pacini F.

Source

Section of Endocrinology and Metabolism, Department of Internal Medicine, Endocrinology and Metabolism and Biochemistry, University of Siena, Policlinico Santa Maria alle Scotte, Viale Bracci 1, 53100 Siena, Italy.

Abstract

BACKGROUND:
In differentiated thyroid cancer (DTC) patients at intermediate risk of recurrences, no evidences are provided regarding the optimal radioactive iodine (RAI) activity to be administered for post-surgical thyroid ablation.

METHODS:
This study aimed to evaluate the impact of RAI activities on the outcome of 225 DTC patients classified as intermediate risk, treated with low (1110-1850 MBq) or high RAI activities (≥3700 MBq).

RESULTS:
Six to 18 months after ablation, remission was observed in 60.0% of patients treated with low and in 60.0% of those treated with high RAI activities, biochemical disease was found in 18.8% of patients treated with low and in 14.3% of patients treated with high RAI activities, metastatic disease was found in 21.2% of patients treated with low and in 25.7% of patients treated with high RAI activities (P=0.56). At the last follow-up (low activities, median 4.2 years; high activities, median 6.9 years), remission was observed in 76.5% of patients treated with low and in 72.1% of patients treated with high RAI activities, persistent disease was observed in 18.8% of patients treated with low and in 23.5% of patients treated with high RAI activities, recurrent disease was 2.4% in patients treated with low and 2.1% in patients treated with high RAI activities, deaths occurred in 2.4% of patients treated with low and in 2.1% of patients treated with high RAI activities (P=0.87).

CONCLUSION:
Our study provides the first evidence that in DTC patients at intermediate risk, high RAI activities at ablation have no major advantage over low activities.

PMID: 23594687

http://dx.doi.org/10.1530/EJE-12-0954

9. Metabolism. 2013 Jul;62(7):970-5. doi: 10.1016/j.metabol.2013.01.009. Epub 2013 Feb 5. **IF: 3.23**

Impaired glucose metabolism is a risk factor for increased thyroid volume and nodule prevalence in a mild-to-moderate iodine deficient area.

Anil C, Akkurt A, Ayturk S, Kut A, Gursoy A.

Source

Department of Endocrinology and Metabolism, Baskent University Faculty of Medicine, Ankara, Turkey. cuneydanil@yahoo.com

Abstract

OBJECTIVE:
Insulin resistance (IR) is a key factor involved in the pathogenesis of impaired glucose metabolism. IR is associated with increased thyroid volume and nodule prevalence in patients with metabolic syndrome. Data on the association of thyroid morphology and abnormal glucose metabolism are limited. This prospective study was carried out to evaluate thyroid volume and nodule prevalence in patients with pre-diabetes and type 2 diabetes mellitus (DM) in a mild-to-moderate iodine deficient area.

MATERIALS AND METHODS:
Data were gathered on all newly diagnosed patients with pre-diabetes and type 2 diabetes mellitus between May 2008 and February 2010. 156 patients with pre-diabetes and 123 patients with type 2 DM were randomly matched for age, gender, and smoking habits with 114 subjects with normal glucose metabolism. Serum thyroid-stimulating hormone (TSH) and thyroid ultrasonography was performed in all participants.

RESULTS:
Mean TSH level in the diabetes group (1.9±0.9 mIU/L) was higher than in the control group (1.4±0.8 mIU/L) and the pre-diabetes group (1.5±0.8 mIU/L) (P<0.0001 for both). Mean thyroid volume was higher in the pre-diabetes (18.2±9.2mL) and diabetes (20.0±8.2mL) groups than in controls (11.4±3.8mL) (P<0.0001 for both). Percentage of patients with thyroid nodules was also higher in the pre-diabetes (51.3%) and diabetes groups (61.8%) than in controls (23.7%) (P<0.0001 for both).

CONCLUSIONS:

The results suggest that patients with impaired glucose metabolism have significantly increased thyroid volume and nodule prevalence.

PMID: 23395200
http://dx.doi.org/10.1016/j.metabol.2013.01.009

10. Surgery. 2013 Sep 25. pii: S0039-6060(13)00211-0. doi: 10.1016/j.surg.2013.04.064. [Epub ahead of print] **IF: 3.19**

Total thyroidectomy for Graves' disease: Compliance with American Thyroid Association guidelines may not always be necessary.

Shinall MC Jr, Broome JT, Nookala R, Shinall JB, Kiernan C, Parks L 3rd, Solórzano CC.

Source

Department of Surgery, Vanderbilt University Medical Center, Nashville, Nashville, TN. Electronic address: Ricky.shinall@vanderbilt.edu.

Abstract

BACKGROUND:
Total thyroidectomy (TT) is the preferred operative approach to Graves' disease. Current guidelines of the American ThyroidAssociation call for the administration of potassium iodide (KI) and achievement of euthyroid state before operation. Small numbers and a mixture of operative approaches spanning several decades hinder previous operative series. We present the outcomes for TT at a single high-volume center.

METHODS:
A retrospective cohort study was conducted on 165 patients undergoing TT for Graves' disease from July 2007 to May 2012.

RESULTS:
Mean age was 43 years (range, 17-78), and 128 patients (78%) were female. A total of 95% of patients were on methimazole or propylthiouracil, and 42% remained hyperthyroid at time of TT. Only 3 (2%) patients received KI. Mean operative time was 132 minutes (range, 59-271). Mean gland size and blood loss were 41 g (range, 8-180) and 55 mL (range, 10-1050), respectively. No patient developed thyroid storm. Median follow-up was 7.5 months. Temporary and permanent hypocalcemia developed in 51 (31%) and 2 patients (1.2%), respectively. Temporary and permanent recurrent laryngeal nerve paresis occurred in 12 (7%) and one (0.6%) patient, respectively. Sixty-one (37%) patients experienced at least one complication. On multivariate analysis, patient age younger than 45 years (odds ratio 2.93, 95% confidence interval 1.39-6.19) and obesity (odds ratio 2.11, 95% confidence interval 1.00-4.43) were associated with the occurrence of complications.

CONCLUSION:
This high-volume surgeon experience demonstrates no appreciable detriment to patient outcomes when recommendations of the American Thyroid Association for routine use of KI and euthyroid state before thyroidectomy are not met. Transient hypocalcemia and hoarseness are frequent complications of TT for Graves' disease, resolving within 6 months in most patients. Age younger than 45 years and obesity are risk factors for postoperative complications.

PMID: 24075271
http://dx.doi.org/10.1016/j.surg.2013.04.064

11. Surgery. 2013 Jul;154(1):106-10. doi: 10.1016/j.surg.2013.02.018. **IF: 3.19**

Clinical significance of microscopic anaplastic focus in papillary thyroid carcinoma.

Choi JY, Hwang BH, Jung KC, Min HS, Koo do H, Youn YK, Lee KE.

Source

Department of Surgery, Seoul National University College of Medicine, Seoul, Korea.

Abstract

BACKGROUND:
On occasion, a microscopic anaplastic focus (MAF) is discovered in papillary thyroid carcinoma (PTC). The relevance of MAF has not been well studied with regard to its clinical implications. MAF is defined as the microscopic presence of focally dedifferentiated follicular cells within the PTC.

METHODS:
A total of 3,606 patients who underwent primary thyroid surgery between 1995 and 2007 were selected from the database of Seoul National University Hospital. Patients were divided into 3 groups based on histology: PTC without MAF (3,574 patients), PTC with MAF (13 patients), and anaplastic thyroid carcinoma (19 patients).

RESULTS:
Mean ± standard deviation age was 48 ± 12 years (range, 17-83) in the PTC without MAF group, 57 ± 14 years (range, 29-76) in the PTC with MAF group, and 64 ± 14 years (range, 24-86) in the ATC group ($P < .001$). Mean tumor sizes were 1.2 ± 0.9 cm (range, 0.5-13), 2.1 ± 1.2 cm (range, 0.7-5), and 3.7 ± 1.4 cm (range, 0.4-6), respectively ($P < .001$). The median follow-up was 32 months. The cause-specific survival at 5 years was 98% in the PTC without MAF group, 64% in the PTC with MAF group, and 11% in the ATC group ($P < .001$). Multivariate analysis showed that MAF was a prognostic factor for the outcome of PTC patients (hazard ratio, 12.9; 95% confidence interval, 3.1-54.1; $P < .001$).

CONCLUSION:
MAF negatively influenced the prognosis of patients with PTC. Further research and the design of more aggressive treatment strategies for MAF might be helpful for patients with PTC.

PMID: 23809489
http://dx.doi.org/10.1016/j.surg.2013.02.018

12. Surgery. 2013 Aug 22. pii: S0039-6060(13)00351-6. doi: 10.1016/j.surg.2013.06.029. [Epub ahead of print] **IF: 3.19**

Hurthle cell carcinoma: An update on survival over the last 35 years.

Nagar S, Aschebrook-Kilfoy B, Kaplan EL, Angelos P, Grogan RH.

Source

The Endocrine Surgery Research Program, Department of Surgery, University of Chicago, Chicago, IL. Electronic address: Sapna.Nagar@uchospitals.edu.

Abstract

BACKGROUND:
Hurthle cell carcinoma (HCC) of the thyroid is a variant of follicular cell carcinoma (FCC). A low incidence and lack of long-term follow-up data have caused controversy regarding the survival characteristics of HCC. We aimed to clarify this controversy by analyzing HCC survival over a 35-year period using the Surveillance, Epidemiology, and End Results (SEER) database.

METHODS:
Cases of HCC and FCC were extracted from the SEER-9 database (1975-2009). Five- and 10-year survival rates were calculated. We compared changes in survival over time by grouping cases into 5-year intervals.

RESULTS:
We identified 1,416 cases of HCC and 4,973 cases of FCC. For cases diagnosed from 1975 to 1979, HCC showed a worse survival compared with FCC (5 years, 75%; 95% confidence interval [CI], 60.2-85) versus 88.7% (95% CI, 86-90.8; 10 years, 66.7% [95% CI, 51.5-78.1] vs 79.7% [95% CI, 76.5-82.6]). For cases diagnosed from 2000 to 2004 we found no difference in 5-year survival between HCC and FCC (91.1% [95% CI, 87.6-93.7] vs 89.1% [95% CI, 86.5-91.2]). For cases diagnosed from 1995 to 1999, there was no difference in 10-year survival between HCC and FCC (80.9% [95% CI, 75.6-85.2] vs 83.9% [95% CI, 80.8-86.6]). HCC survival improved over the study period while FCC survival rates remained stable (increase in survival at 5 years, 21.7% vs 0.4%; at 10 years, 21.3% vs 5.2%). Improvement in HCC survival was observed for both genders, in age ≥45 years, in local and regional disease, for tumors >4 cm, and with white race.

CONCLUSION:
HCC survival has improved dramatically over time such that HCC and FCC survival rates are now the same. These findings explain how studies over the last 4 decades have shown conflicting results regarding HCC survival; however, our data do not explain why HCC survival has improved.

PMID: 23973114

http://dx.doi.org/10.1016/j.surg.2013.06.029

13. World J Surg. 2013 Jul 23. [Epub ahead of print] **IF: 2.47**

Clinical Significance of Delphian Lymph Node Metastasis in Papillary Thyroid Carcinoma.

Oh EM, Chung YS, Lee YD.

Source

Thyroid and Endocrine Surgery Department, Gachon University Gil Hospital, 1198, Guwol-dong, Namdong-Gu, Inchon, Republic of Korea, 2627042@naver.com.

Abstract

BACKGROUND:
Delphian lymph node (DLN) metastasis has long been considered a prognostic marker of head and neck malignancy. These days, the significance of DLN in thyroid cancer has come to the fore. The objective of the present study was to evaluate the clinical significance of DLN metastasis in patients with papillary thyroid cancer (PTC).

PATIENTS AND METHODS:
The study was carried out between July 2009 and December 2011, and DLN was detected in 245 of 898 PTC patients who underwent total thyroidectomy and bilateral central compartment neck dissection. In those 245 patients DLN status was correlated with clinical and pathologic factors, including age, gender, tumor size, extrathyroidal extension (ETE), lymphovascular invasion (LVI), and central and lateral nodal metastasis.

RESULTS:
DLN metastasis was found in 20 % of the patients studied (49 of 245), and DLN metastasis was correlated with tumor size, multicentricity, bilaterality, and LVI excluding ETE (all $p < 0.05$). The proportion of male patients was higher in the DLN metastasis positive group than in the DLN metastasis negative group (34.7 vs. 13.3 %; $p < 0.05$). Most of the patients (95.9 %) with DLN metastasis had other central neck node metastasis, and the metastatic central lymph node ratio was higher (0.38 ± 0.23 versus 0.09 ± 0.16; $p < 0.001$) and lateral neck node metastasis was more common (2.6 vs. 32.7 % <0.001) than in patients without DLN metastasis. For central and lateral compartment nodal metastasis, DLN status had sensitivity, specificity, positive and negative predictive values of 100, 37.4, 58.1, and 100 %, and 85.3, 76.2, 97.4, and 32.7 %, respectively. Multivariate analysis showed that the factors affecting DLN involvement were tumor size and LVI. Patients with positive DLN were ~1.6 times more likely to have further central compartment disease and 3.6 times more likely to have lateral compartment disease.

CONCLUSIONS:
DLN metastasis in patients with PTC is related to a number of poor prognostic factors. Furthermore DLN involvement implies that the patients are predicted to have heavy burden of central neck node metastasis and are more likely to have further lateral neck node metastasis. It is recommended that DLN is evaluated and dissected in all patients with thyroid cancer. If DLN metastasis is suspected, the surgeon should thoroughly dissect the central neck compartment and pay particular attention to the lateral lymph node compartments.

PMID: 23877804

14. World J Surg. 2013 Sep 18. [Epub ahead of print] **IF: 2.47**

Evaluating the Morbidity and Efficacy of Reoperative Surgery in the Central Compartment for Persistent/Recurrent Papillary Thyroid Carcinoma.

Lang BH, Lee GC, Ng CP, Wong KP, Wan KY, Lo CY.

Source

Department of Surgery, The University of Hong Kong, Hong Kong SAR, China, blang@hkucc.hku.hk.

Abstract

BACKGROUND:
Although reoperative surgery in the central compartment (RCND) is indicated for bulky or progressive persistent/recurrent papillarythyroid carcinoma (PTC), its associated morbidity and disease outcomes remain unclear. We evaluated RCND outcomes by comparing them with those of patients who underwent primary central neck dissection (CND).

METHODS:
After matching for age, sex, tumor size, and initial tumor stage, the morbidity and outcomes of 50 consecutive patients who underwent RCND were compared with data from 75 patients who underwent primary therapeutic CND during the same period. Matching was performed blind to the morbidity and disease outcome of each patient. A stimulated thyroglobulin (sTg) <2 ng/ml was considered undetectable.

RESULTS:
Relative to primary CND, the incidence of extranodal extension ($p = 0.010$) and size of metastatic lymph nodes ($p < 0.001$) were significantly greater in the RCND group. Postoperative hypoparathyroidism and vocal cord palsy rates were comparable in the groups. There were two esophageal injuries in the RCND group and none in the primary CND group. The secondary CND group achieved a significantly lower undetectable postablation sTg rate (12.0 vs. 52.0 %, $p = 0.001$) and worse 10-year disease-free survival (35.6 vs. 91.8 %, $p = 0.001$) and cancer-specific survival (82.0 vs. 98.5 %, $p = 0.001$) than the primary CND group.

CONCLUSIONS:
Although RCND for persistent/recurrent PTC was performed with morbidity comparable to that seen with primary CND, it was associated with some serious complications. Short- and long-term disease control appeared moderate with approximately one-tenth of patients having an undetectable sTg level 6 months after ablation and one-third remaining clinically disease-free after 10 years.

PMID: 24045964

15. Am J Surg. 2013 Sep 4. pii: S0002-9610(13)00402-9. doi: 10.1016/j.amjsurg.2013.07.005. [Epub ahead of print] **IF: 2.39**

Surgery for Graves' disease: a 25-year perspective.

Phitayakorn R, Morales-Garcia D, Wanderer J, Lubitz CC, Gaz RD, Stephen AE, Ehrenfeld JM, Daniels GH, Hodin RA, Parangi S.

Source

Thyroid Cancer Research Laboratory, Endocrine Surgery Unit, The Massachusetts General Hospital, Harvard Medical School, 15 Parkman Street, Wang ACC 460, Boston, MA 02115, USA.

Abstract

BACKGROUND:

Optimal treatment of Graves' disease (GD) remains controversial. The authors retrospectively reviewed the surgical cases of GD at a single academic tertiary center.

METHODS:
Demographic, clinical, and surgical data were analyzed for all patients with GD undergoing thyroidectomy over 25 years, in 3 periods: 1985 to 1993 (n = 32), 1994 to 2002 (n = 91), and 2003 to 2010 (n = 177).

RESULTS:
There were 300 patients with GD (85.7% women; mean age, 39.3 years; median length of follow-up, 24.6 months). Overall, perioperative morbidity occurred in 36 patients (12.0%), and there was no mortality. Thyroidectomy-specific morbidity was very low, and the incidental malignancy rate was 10.3%.

CONCLUSIONS:
Surgical treatment of GD has a very high safety profile, with low perioperative and thyroidectomy-specific morbidity, even in patients with overt hyperthyroidism. Incidental malignancy in patients with GD is not uncommon.

KEYWORDS:

Graves' disease, Incidental malignancy, Surgical therapy

PMID: 24011567

http://dx.doi.org/10.1016/j.amjsurg.2013.07.005

16. Endocrine. 2013 Aug 29. [Epub ahead of print] **IF: 2.24**

Ultrasound-guided fine-needle aspiration for solid thyroid nodules larger than 10 mm: correlation between sonographic characteristics at the needle tip and nondiagnostic results.

Wu H, Zhang B, Zang Y, Wang J, Zhu B, Cao Y, Liu Q.

Source

Department of Ultrasound, Jiang Yuan Hospital Affiliated with the Jiangsu Institute of Nuclear Medicine (Key Laboratory of Nuclear Medicine, Ministry of Health/Jiangsu Key Laboratory of Molecular Nuclear Medicine), 20 Qianrong Rd, Wuxi, 214063, Jiangsu, China, whxmd@outlook.com.

Abstract
The objective of this study was to investigate the effect of the ultrasonographic (US) characteristics and ultrasound elastography (UE) patterns on the probability of a nondiagnostic result when performing ultrasound-guided fine-needle aspiration (UG-FNA) cytological sampling of solid thyroid nodules larger than 10 mm, to determine the efficacy of needle tip localization in UG-FNA. We retrospectively reviewed the cytological results of 710 samples from 355 patients. We compared the US characteristics and UE patterns between nodules with nondiagnostic and diagnostic results, using univariate and multivariate analyses. Among the 710 samples, 81 samples (11.4 %) from 41 patients had nondiagnostic results. According to multivariate analysis, the combinations of hypoechogenicity with avascularity [odds ratio (OR) = 2.42; 95 % confidence interval (CI) 1.37-3.72; $p < 0.05$], hypoechogenicity with the "hard pattern" (OR = 2.12; 95 % CI 1.58-4.59; $p < 0.05$), and hypoechogenicity with avascularity and the hard pattern (OR = 2.61; 95 % CI 1.40-5.21; $p < 0.05$) were risk factors that increased the incidence of nondiagnostic results in UG-FNA. UG-FNA was more likely to yield nondiagnostic results when the needle tip sampling region displayed hypoechogenicity and avascularity in US and the hard pattern in UE.

PMID: 23990249

17. Exp Mol Pathol. 2013 Aug;95(1):62-7. doi: 10.1016/j.yexmp.2013.05.001. Epub 2013 May 16. **IF: 2.21**

Overexpression of miR-10a and miR-375 and downregulation of YAP1 in medullary thyroid carcinoma.

Hudson J, Duncavage E, Tamburrino A, Salerno P, Xi L, Raffeld M, Moley J, Chernock RD.

Source

Department of Pathology and Immunology, Washington University School of Medicine, St. Louis, MO 63110, United States.

Abstract

MicroRNAs are a primordial mechanism of gene expression control that appear to be crucial to cellular development and may play an important role in tumor development. Much is known about the genetics of medullary thyroid carcinomas, as approximately 25% are hereditary and harbor germ line activating mutations in the RET gene. Somatic RET mutations are also seen in roughly 50% of sporadic medullary thyroid carcinomas. Few studies, however, have evaluated the role of microRNA expression in these tumors. DNA and RNA were extracted from formalin-fixed paraffin-embedded tissue blocks of 15 medullary thyroid carcinomas [10 with RET mutations (3 hereditary) and 5 without RET mutations] and 5 non-tumor thyroid glands. miRNA expression of 754 targets was quantitated by real-time PCR using the ABI OpenArray miRNA assay. Three miRNAs showed significant differential expression and were validated in a larger cohort of 59 cases by real-time PCR. Expression of potential downstream targets and upstream regulators was also investigated by real-time PCR. miR-375 and miR-10a were significantly overexpressed, while miR-455 was underexpressed in medullary thyroid carcinomas. Expression of all 3 miRNAs was validated in the larger cohort of cases (miR-375, p=3.3×10(-26); miR-10a, p=5.6×10(-14); miR-455, p=2.4×10(-4)). No significant differences in miRNA expression were found between RET mutation positive and negative tumors nor between sporadic and hereditary tumors. Expression of the potential downstream targets of miR-375, YAP1 (a growth inhibitor) and SLC16a2 (a transporter of thyroid hormone), was down-regulated in the tumors suggesting that miR-375 is a negative regulator of the expression of these genes. Thus, differential expression of miR-375, miR-10a and miR-455 may be important for tumor development and/or reflect C-cell lineage of medullary thyroid carcinoma. Furthermore, the growth inhibitor YAP1 is identified as a potential important downstream target of miR-375.

KEYWORDS:

Medullary thyroid carcinoma, YAP1, miR-10a, miR-375, miR-455, microRNA

PMID: 23685355

http://dx.doi.org/10.1016/j.yexmp.2013.05.001

18. J Surg Res. 2013 Sep;184(1):193-9. doi: 10.1016/j.jss.2013.04.084. Epub 2013 May 23. **IF: 2.08**

Selective lateral compartment neck dissection for thyroid cancer.

Welch K, McHenry CR.

Source

Northeast Ohio Medical University, Rootstown, Ohio.

Abstract

BACKGROUND:
Compartment-oriented lymph node dissection in patients with thyroid cancer and macroscopic lymph node metastases reduces recurrence and improves survival. However, the extent of lymph node dissection remains controversial. The purpose of this study was to examine the results of selective lateral compartment neck dissection (LCND) for thyroid cancer.

METHODS:
We completed a retrospective review of patients with thyroid cancer who underwent selective LCND from 1992-2012 to determine the extent of lymph node resection, morbidity, recurrence, subsequent operations, mortality, and duration of follow-up.

RESULTS:
A total of 45 LCNDs (five bilateral) were performed in 40 patients, 35 with differentiated thyroid cancer (DTC) and five with medullary carcinoma. Nineteen LCNDs (42%) were completed at the time of thyroidectomy. Levels IIA, III, IV, and VB were included in 43 LCNDs (96%) and levels IIA, III, and IV in two LCNDs (4%). Morbidity included neck or ear numbness in 19 patients (48%), neuropathic symptoms in 14 (35%), Horner syndrome in two (5%), marginal mandibular nerve paresis in two (5%), and wound infection in one (3%). Recurrence rate was 25% (10 patients) and one or more reoperations were performed in seven patients (18%) with a mean follow-up of 58 ± 60 mo (range, 1-244 mo). There were 3 ipsilateral recurrences (8%) after 40 LCNDs for DTC. Four patients died from systemic disease: three with medullary carcinoma and one with PTC.

CONCLUSIONS:
Selective LCND is an effective therapeutic strategy for macroscopic lymph node metastases, with an 8% recurrence rate in the ipsilateral neck in patients with DTC. Neuropathic symptoms, however, remain an important source of morbidity.

KEYWORDS:

Selective lateral compartment neck dissection, Thyroid cancer

PMID: 23816244

http://dx.doi.org/10.1016/j.jss.2013.04.084

19. Cytopathology. 2013 Sep 11. doi: 10.1111/cyt.12093. [Epub ahead of print] **IF: 2.05**

Hürthle cell presence alters the distribution and outcome of categories in the Bethesda system for reportingthyroid cytopathology.

Yazgan A, Balci S, Dincer N, Kiyak G, Tuzun D, Ersoy R, Cakir B, Guler G.

Source

Department of Pathology, Yildirim Beyazit University Ankara Ataturk Research and Training Hospital, Ankara, Turkey.

Abstract

OBJECTIVES:
We aimed to determine whether the presence of Hürthle cells altered the distribution of categories in the Bethesda system for reporting thyroid cytopathology, or the expected neoplastic and malignant outcome.

METHODS:
Fine needle aspiration (FNA) cytology reports of Hürthle cells in a 2-year period were evaluated. The distribution of Bethesda system categories and the outcome at partial or complete thyroidectomy were compared for FNAs with and without Hürthle cells.

RESULTS:
Of 895 adequate FNAs with Hürthle cells, 764 (85.4%) were classified as benign, 86 (9.6%) as atypia of undetermined significance/follicular lesion of undetermined significance (AUS/FLUS), 32 (3.6%) as follicular neoplasm/suspicious for follicular neoplasm (FN/SFN), 12 (1.3%) as suspicious for malignancy (SFM) and one (0.1%) as malignant. Of 10 359 adequate FNAs without Hürthle cells, 9707 (93.7%) were classified as benign, 412 (4.0%) as AUS/FLUS, 77 (0.7%) as FN/SFN, 93 (0.9%) as SFM and 70 (0.7%) as malignant. The distribution of categories in FNAs with and without Hürthle cells was significantly different ($P < 0.001$) as a result of a decrease in benign and an increase in AUS/FLUS and FN/SFN categories. Among 128 patients with and 582 without Hürthle cells undergoing surgery, the overall neoplastic and malignancy rates were higher in the former than in the latter group (27.3% versus 14.9%, $P < 0.001$; 21.1% versus 11.7%, $P = 0.003$; respectively). Although neoplastic and malignant rates were higher in the group with than without Hürthle cells in all categories, the differences were only significant for a neoplastic outcome of benign cytology (15.1% versus 6.0%, $P = 0.0013$) and a malignant outcome of FN/SFN cytology (63.6% versus 21.9%, $P = 0.0108$).

CONCLUSIONS:
We found that the rates of AUS/FLUS and FN/SFN categories in the Bethesda system were higher when Hürthle cells were present. After surgery, neoplastic and malignant outcomes were significantly higher in the Hürthle cell group.

KEYWORDS:

Bethesda system, Hürthle cell, fine needle aspiration cytology, thyroid cytopathology, thyroid neoplasia

PMID: 24024935

http://dx.doi.org/10.1111/cyt.12093

20. Int J Surg. 2013 Jul 31. pii: S1743-9191(13)01017-0. doi: 10.1016/j.ijsu.2013.07.010. [Epub ahead of print] **IF: 1.73**

Predictive factors of malignancy in patients with cytologically suspicious for Hurthle cell neoplasm of thyroidnodules.

Lee KH, Shin JH, Ko ES, Hahn SY, Kim JS, Kim JH, Oh YL.

Source

Department of Radiology and Center for Imaging Science, Samsung Medical Center, Sungkyunkwan University School of Medicine, 50 Irwon-dong, Gangnam-gu, Seoul 135-710, Republic of Korea; Department of Radiology, Haeundae Paik Hospital, Inje University, College of Medicine, 1435 Jwa-dong, Haeundae-gu, Busan 612-030, Republic of Korea.

Abstract

BACKGROUND:
Our aim was to evaluate predictive factors of malignancy in patients with cytologically suspicious for Hurthle cell neoplasm (HCN) ofthyroid nodules.

MATERIALS AND METHODS:
We searched cases with cytologically suspicious for HCN from 11,569 ultrasound-guided fine-needle aspirations (US-FNA) performed at our institution. Nodules that were confirmed surgically or followed-up for

at least 2 years were compared with respect to age, gender, tumor size, US diagnosis, and US findings to predict malignancy.

RESULTS:
The incidence of cases with cytologically suspicious for HCN was 1.2% (143 of 11,569). Of 75 nodules that underwent sufficient follow-up or surgery, malignancies were found in 11 (14.7%). Malignant histological examination revealed oncocytic variants of papillary thyroid carcinoma (PTC) in 3 cases, classic PTC in 1, Hurthle cell carcinoma in 3, follicular carcinoma in 3 and an unclassified carcinoma in 1. In univariate analysis, tumor size was significantly larger in malignant nodules compared to benign nodules ($p = 0.026$). The best cut-off value of tumor size in predicting malignancy was 2.5 cm. ($p = 0.006$, sensitivity: 63.6%, specificity: 79.7%). The incidences of hypoechogenicity and malignant US diagnoses were higher in malignant nodules than in benign nodules ($p < 0.001$). In multivariate analysis, tumor size was an independent factor in predicting malignancies. ($p = 0.037$, odd ratio: 2.09, confidence interval: 1.046-4.161).

CONCLUSION:
Preoperative US provides predictive factors of malignancy in thyroid nodules with cytologically suspicious for HCN. Predictive factors include tumor size of 2.5 cm or greater, hypoechoic nodule and malignant US diagnosis.

KEYWORDS:

Diagnosis, Hurthle cell neoplasm, Predictive factor, Thyroid nodule, Ultrasonography

PMID: 23916366

http://dx.doi.org/10.1016/j.ijsu.2013.07.010

21. ORL J Otorhinolaryngol Relat Spec. 2013;75(4):228-39. doi: 10.1159/000353549. Epub 2013 Jul 26. **IF: 1.68**

Superior mediastinal dissection for papillary thyroid carcinoma: approaches and outcomes.

Liu J, Wang X, Liu S, Liu X, Tang P, Xu Z.

Source

Department of Head and Neck Surgical Oncology, Cancer Hospital, Chinese Academy of Medical Sciences, Beijing, China.

Abstract

Background: Superior mediastinal surgery for thyroid carcinoma is not a standardized procedure like the neck dissection. The objective of this study was to evaluate the effectiveness of superior mediastinal dissection for mediastinal metastasis of papillary thyroid carcinoma (PTC). Methods: We conducted a retrospective review of 119 patients who underwent superior mediastinal dissection for the treatment of PTC. The postoperative characteristics and follow-up data were analyzed. Cox regression was performed to identify the factors related to the mediastinal control. Results: No severe complications occurred in this series. The five-year local (mediastinum) disease-free survival rates of comprehensive (n = 29) and partial (n = 90) superior mediastinal dissection were 86.3 and 84.0%, respectively (log-rank = 0.562; p = 0.452). Different patterns of superior mediastinal dissection did not turn out to be related to mediastinal recurrence in the cox regression. Bilateral paratracheal metastasis was identified as an individual risk factor of mediastinal recurrence with a relative risk value of 4.635 (95% CI: 1.399-15.355; p = 0.012). Conclusions:

Both partial and comprehensive superior mediastinal dissections are effective and safe for the treatment of mediastinal metastasis of PTC if appropriately designed. © 2013 S. Karger AG, Basel.

PMID: 23900210
http://dx.doi.org/10.1159/000353549

22. Otolaryngol Head Neck Surg. 2013 Jul;149(1):47-52. doi: 10.1177/0194599813489662. Epub 2013 May 21. **IF: 1.68**

Neural monitored revision thyroid cancer surgery: surgical safety and thyroglobulin response.

Phelan E, Kamani D, Shin J, Randolph GW.

Source

Division of Thyroid and Parathyroid Surgery, Department of Otology and Laryngology, Massachusetts Eye and Ear Infirmary, Harvard Medical School, Boston, Massachusetts 02114, USA.

Abstract

OBJECTIVE:
To evaluate the postoperative complications and to evaluate and stratify thyroglobulin (Tg) response associated with revision surgery for thyroid malignancy.

STUDY DESIGN:
Case series with chart review.

SETTINGS:
Academic, tertiary care center.

SUBJECTS AND METHODS:
All patients with regionally recurrent thyroid carcinoma and who underwent revision thyroid surgery by the senior author (GWR) during a 5-year period were identified. All patients had pre- and postoperative laryngeal examination and underwent surgery with standardized neural monitoring. Postoperative complications and thyroglobulin (Tg) response were recorded.

RESULTS:
One hundred seventeen cases meeting the criteria for revision surgery for recurrent thyroid cancer were identified. Among this group, 30% presented for their third or higher revision procedure. Preoperative permanent vocal cord palsy was present in 14% (n = 16), and 19% (n = 22) had preoperative permanent hypocalcaemia. There were no new cases of either temporary or permanent vocal cord palsy in our study group. Approximately 5% developed temporary and 3% permanent hypocalcaemia requiring medical treatment. The mean basal Tg following revision surgery was 5.6 ng/ml (range, 0.2-32.7), which represented a mean postoperative significant decline in Tg of approximately 90%. In nearly 40%, basal Tg was undetectable postoperatively. Tg response was stratified based on the number of revision surgeries, Tg decline was observed in 90% of all cases, 92% after first revision surgery, 85% after second, 34% after third, and 70% after fifth revision surgeries.

CONCLUSION:
Revision thyroid cancer surgery can be performed with low rates of complications and significant impact on Tg levels even after multiple revision surgeries.

KEYWORDS:

IONM, complications of revision surgery, hypocalcemia, hypoparathyroidism, neural monitoring, papillary thyroid carcinoma, recurrent laryngeal nerve injury, revision thyroid surgery, thyroglobulin Tg response, thyroid cancer recurrence

PMID: 23695590
http://dx.doi.org/10.1177/0194599813489662

23. Otolaryngol Head Neck Surg. 2013 Jul;149(1):53-9. doi: 10.1177/0194599813482877. Epub 2013 Mar 22. **IF: 1.68**

Prevalence and prediction for malignancy of additional thyroid nodules coexisting with proven papillary thyroid microcarcinoma.

Choi SY, Woo SH, Shin JH, Choi N, Son YI, Jeong HS, Baek CH, Chung MK.

Source

Department of Otorhinolaryngology-Head and Neck Surgery, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea.

Abstract

OBJECTIVE:
To investigate the clinical efficacy of ultrasonographic (US) classification of additional thyroid nodules coexisting with proven papillary thyroid microcarcinoma (PTMC).

STUDY DESIGN:
Historical cohort study.

SETTING:
Tertiary care institution.

SUBJECTS AND METHODS:
In addition to the prevalence of additional thyroid nodules based on an US classification, the diagnostic accuracy and predictive factors for malignancy were assessed in 300 nodules randomly selected from 300 patients with cytologically proven PTMC who underwent total thyroidectomy.

RESULTS:
The most common thyroid nodules were "indeterminate nodules," 68.0%, followed by "probably benign nodules," 20.7%, and "suspicious malignant nodules," 11.3%. For indeterminate nodules, the malignancy rate was 16.6% (34/204) with disregard to its location, either on the contralateral (15.1%, 16/106) or ipsilateral side (18.4%, 18/98) of the known PTMC (P = .53). According to univariate and multivariate analyses of clinical and US findings for predictive variables of malignancy in indeterminate nodules, hypoechogenicity was proven to be the sole predictive factor for malignancy (odds ratio 5.62, 95% CI, 2.29-13.72).

CONCLUSION:
US-based classification of additional thyroid nodules is a useful tool for decision making of the surgical extent in patients with a single PTMC.

KEYWORDS:

papillary thyroid microcarcinoma, thyroid nodules, ultrasonography

PMID: 23525852
http://dx.doi.org/10.1177/0194599813482877

24. Otolaryngol Head Neck Surg. 2013 Sep 17. [Epub ahead of print] **IF: 1.68**

Electrophysiologic Monitoring Characteristics of the Recurrent Laryngeal Nerve Preoperatively Paralyzed or Invaded with Malignancy.

Kamani D, Darr EA, Randolph GW.

Source

Massachusetts Eye and Ear Infirmary, Division of Thyroid and Parathyroid Surgery, Harvard Medical School, Boston, Massachusetts, USA.

Abstract

ObjectiveTo elucidate electrophysiologic responses of the recurrent laryngeal nerves that were preoperatively paralyzed or invaded by malignancy and to use this information as an added functional parameter for intraoperative management of recurrent laryngeal nerves with malignant invasion.Study DesignCase series with chart review.SettingsAcademic, tertiary care center.Subjects and MethodsAll consecutive neck surgeries with nerve monitoring performed by senior author (GWR) between December 1995 and January 2007 were reviewed after obtaining Institutional Review Board approval from Massachusetts Eye and Ear Infirmary Human Subjects Committee and the Partners Human Research Committee. Electrophysiologic parameters in all cases with preoperative vocal cord paralysis/paresis, and the recurrent laryngeal nerve invasion by cancer, were studied.ResultsOf the 1138 surgeries performed, 25 patients (2.1%) had preoperative vocal cord dysfunction. In patients with preoperative vocal cord dysfunction, recognizable recurrent laryngeal nerve electrophysiologic activity was preserved in over 50% of cases. Malignant invasion of the recurrent laryngeal nerve was found in 22 patients (1.9%). Neural invasion of the recurrent laryngeal nerve was associated with preoperative vocal cord paralysis in only 50% of these patients. In nerves invaded by malignancy, 60% maintained recognizable electrophysiologic activity, which was more commonly present and robust when vocal cord function was preserved.ConclusionKnowledge of electrophysiologic intraoperative neural monitoring provides additional functional information and, along with preoperative vocal cord function information, aids in constructing decision algorithms regarding intraoperative management of the recurrent laryngeal nerve, in prognosticating postoperative outcomes, and in patient counseling regarding postoperative expectations.

KEYWORDS:

EMG, IONM, electrophysiologic parameters, invasive malignancy, recurrent laryngeal nerve monitoring, surgery for thyroid cancer, thyroidmalignancy, vocal cord paralysis

PMID: 24046274

25. Eur Arch Otorhinolaryngol. 2013 Jul 20. [Epub ahead of print] **IF: 1.59**

Clinical characteristics of papillary thyroid microcarcinoma less than or equal to 5 mm on ultrasonography.

Lee HS, Park HS, Kim SW, Choi G, Park HS, Hong JC, Lee SG, Baek SM, Lee KD.

Source

Department of Otolaryngology-Head and Neck Surgery, Kosin University College of Medicine, Am-Nam Dong 34, Seo-Gu, 602-702, Busan, South Korea.

Abstract

Management of papillary thyroid microcarcinoma sized ≤5 mm identified on ultrasonography is controversial. In this study, we evaluated the clinical characteristics of papillary thyroid microcarcinoma sized ≤5 mm on ultrasonography in comparison to those >5 mm and sought to present rationales for optimal management in papillary thyroid microcarcinoma ≤5 mm. The medical records of 396 patients who underwent surgery for papillary thyroidcarcinoma between 2009 and 2011 were retrospectively analyzed. The patients were grouped into A (≤5 mm, n = 132) or B (>5 mm, n = 264) and the clinicopathologic characteristics of the patients were reviewed and compared between the two groups. Tumor capsular invasion (45.5 vs. 59.8 %, p = 0.007) and cervical lymph node metastasis (18.2 vs. 29.2 %, p = 0.018) were more frequent in group B. Nonetheless, group A presented lymph node metastasis in 42.3 % of multifocal cases showing no difference to that of group B (41.5 %, p = 0.946) and also included five cases (3.8 %) of lateral neck metastasis. Multifocality was the only predictive factor for lymph node metastasis in group A (p < 0.001). Over half (55.3 %) of the patients of group A were diagnosed with papillary carcinoma in private clinics; however, only 5.5 % of these patients underwent assessment of lateral neck lymph nodes initially. In conclusion, higher risk of cervical lymph node metastasis should be considered in evaluation and surgical decision of papillary thyroid microcarcinoma ≤5 mm identified on ultrasonography with multifocality. Evaluation of the cervical lymph nodes including the lateral neck should not be overlooked when suspicious thyroid nodule suggesting malignancy sized ≤5 mm shows multifocal lesions.

PMID: 23873032

26. Laryngoscope. 2013 Oct;123(10):2583-6. doi: 10.1002/lary.23946. Epub 2013 Aug 5. **IF: 1.32**

The role of nerve monitoring to predict postoperative recurrent laryngeal nerve function in thyroid and parathyroid surgery.

Eid I, Miller FR, Rowan S, Otto RA.

Source

Department of Otolaryngology-HNS, University of Texas Health Science Center San Antonio, San Antonio, Texas, U.S.A.

Abstract

OBJECTIVES/HYPOTHESIS:
To determine the role and efficacy of intraoperative recurrent laryngeal nerve (RLN) stimulation in the prediction of early and permanent postoperative nerve function in thyroid and parathyroid surgery.

STUDY DESIGN:
A retrospective review of thyroid and parathyroid surgeries was performed with calculation of sensitivity and specificity of the response of intraoperative stimulation for different pathological groups.

METHODS:
Normal electromyography (EMG) response with 0.5 mAmp stimulation was considered a positive stimulation response with postoperative function determined by laryngoscopy. No EMG response at >1-2 mAmps was considered a negative response. The rates of early and permanent paralysis, as well as sensitivity, specificity, and positive and negative predictive values for postoperative nerve function were calculated for separate pathological groups.

RESULTS:
The number of nerves at risk analyzed was 909. The overall early and permanent paralysis rates were 3.1% and 1.2%, respectively, with the highest rate being for Grave's disease cases. The overall sensitivity was 98.4%. The specificity was lower at 62.5% but acceptable in thyroidcarcinoma and Grave's disease patients. The majority of nerves with a positive stimulation result and postoperative paralysis on laryngoscopy recovered function in 3 to 12 weeks, showing positive stimulation to be a good predictor of eventual recovery.

CONCLUSIONS:

Stimulation of the RLN during thyroid and parathyroid surgery is a useful tool in predicting postoperative RLN function. The sensitivity of stimulation is high, showing positive stimulation to be an excellent predictor of normal nerve function. Negative stimulation is more predictive of paralysis in cases of thyroid carcinoma and Grave's disease.

LEVEL OF EVIDENCE:
2b. Laryngoscope, 123:2584-2587, 2013.

KEYWORDS:

Nerve monitoring, parathyroid surgery, recurrent laryngeal nerve, thyroid surgery

PMID: 23918194

http://dx.doi.org/10.1002/lary.23946

27. Diagn Cytopathol. 2013 Jul 27. doi: 10.1002/dc.23019. [Epub ahead of print] **IF: 1.21**

Follicular lesion of undetermined significance in thyroid FNA revisited.

Walts AE, Mirocha J, Bose S.

Source

Department of Pathology and Laboratory Medicine, Cedars-Sinai Medical Center, Los Angeles, California.

Abstract

Controversy exists regarding the validity of follicular lesion of undetermined significance (FLUS), an indeterminate diagnostic category of The Bethesda System for Reporting Thyroid Cytopathology (BSRTC). According to BSRTC, FLUS carries a 5-15% risk of cancer. This study was designed to determine if cytomorphology could stratify FLUS into subgroups with different risks of malignancy. Reports of 127 consecutive FNAs reported as FLUS with subsequent tissue diagnoses were evaluated for the presence of various cytologic features and the results were correlated with histological diagnoses. FLUS cases with focal nuclear atypia (nuclear overlap/crowding, nuclear grooves/membrane irregularities, nuclear enlargement, and/or nuclear pseudoinclusions) were more frequently malignant on excision whereas those with architectural atypia (microfollicles) were more often benign on excision ($P < 0.05$). The presence of any one or more of these nuclear features increased the risk of carcinoma in subsequent thyroid resection. Papillary carcinomas predominated in excised FLUS cases with focal nuclear atypia whereas most FLUS with architectural atypia were adenomas or hyperplastic nodules on histological evaluation. BSRTC recommends that thyroid aspirates containing follicular cell nuclear and/or architectural atypia insufficient for a diagnosis of suspicious for follicular neoplasm, suspicious for malignancy or malignant be classified as FLUS. Our findings indicate that FLUS cases with focal nuclear atypia carry a risk for malignancy that is substantially higher than that assigned to FLUS and are best classified as suspicious. FLUS cases lacking these atypical nuclear features have a risk for malignancy that approximates the risk BSRTC has assigned to FLUS. Diagn. Cytopathol. 2013;. © 2013 Wiley Periodicals, Inc.

KEYWORDS:

Bethesda System for Reporting Thyroid Cytopathology, follicular lesion of undetermined significance (FLUS), follicular-pattern, papillary carcinoma, thyroid

PMID: 23894017

http://dx.doi.org/: 10.1002/dc.23019

28. Ann Otol Rhinol Laryngol. 2013 Jul;122(7):450-6. **IF:1**

Thyroid hormone replacement therapy, surveillance ultrasonography, and fine-needle aspiration after hemithyroidectomy.

Noureldine SI, Khan A, Massasati SA, Kethman W, Kandil E.

Source

Department of Surgery, Division of Endocrine and Oncological Surgery, Tulane University School of Medicine, New Orleans, LA 70112-2699, USA.

Abstract

OBJECTIVES:

We undertook a retrospective analysis of a single surgeon's experience at a tertiary care teaching hospital to determine the rates of surveillance ultrasound, fine-needle aspiration (FNA), and the need for thyroid hormone replacement therapy (THRT) after hemithyroidectomy.

METHODS:

The study population comprised 120 consecutive patients who underwent hemithyroidectomy by one surgeon from January 2008 to June 2011. The medical records were reviewed for preoperative and postoperative calcium levels, fiberoptic direct laryngoscopy examination of vocal fold mobility, postoperative complications, final pathology, and postoperative follow-up.

RESULTS:

Fifteen patients required completion thyroidectomy for malignancy and were excluded from the surveillance analysis. Of the remaining 105 patients, 10 (9.5%) required postoperative THRT. The likelihood for THRT was significantly associated with increased age ($p = 0.01$) and the presence of thyroiditis ($p = 0.04$). Other factors, such as gender, body mass index, residual thyroid volume, and presence of contralateral lobe nodules, were not significantly associated with this likelihood ($p > 0.05$). Twenty-three patients (21.9%) were followed with surveillance ultrasound, of whom 12 (11.4%) underwent FNA for nodule(s) in the contralateral lobe. Seventy-eight percent of patients did not require any long-term postoperative surveillance. There were no instances of permanent recurrent laryngeal nerve injury or hypoparathyroidism.

CONCLUSIONS:

Hemithyroidectomy is an effective and efficient option for the management of benign and suspicious thyroid nodules. However, patients of increased age and/or with thyroiditis are at higher risk for postoperative hypothyroidism, and should be counseled to consider total thyroidectomy to avoid the need for long-term surveillance and the possible need for a second operation.

PMID: 23951697

TİROİD

Vaka sunumu / Vaka kontrol

1. Ann Surg. 2013 Aug;258(2):354-8. doi: 10.1097/SLA.0b013e31826c8915. **IF: 6.85**

The relationship between extent of thyroid cancer surgery and use of radioactive iodine.

Haymart MR, Banerjee M, Yang D, Stewart AK, Doherty GM, Koenig RJ, Griggs JJ.

Source

Divisions of Metabolism, Endocrinology, and Diabetes and Hematology/Oncology, University of Michigan, Ann Arbor, MI 48109, USA. meganhay@umich.edu

Abstract

By linking surgeon surveys to the National Cancer Database, we found that surgeons' tendency to perform more extensive thyroid resection is associated with greater use of radioactive iodine for stage I thyroid cancer.

OBJECTIVE:
To determine the relationships between surgeon recommendations for extent of resection and radioactive iodine use in low-risk thyroid cancer.

BACKGROUND:
There has been an increase in thyroid cancer treatment intensity; the relationship between extent of resection and medical treatment with radioactive iodine remains unknown.

METHODS:
We randomly surveyed thyroid surgeons affiliated with 368 hospitals with Commission on Cancer-accredited cancer programs. Survey responses were linked to the National Cancer Database. The relationship between extent of resection and the proportion of the American Joint Committee on Cancer stage I well-differentiated thyroid cancer patients treated with radioactive iodine after total thyroidectomy was assessed with multivariable weighted regression, controlling for hospital and surgeon characteristics.

RESULTS:
The survey response rate was 70% (560/804). Surgeons who recommend total thyroidectomy over lobectomy for subcentimeter unifocal thyroid cancer were significantly more likely to recommend prophylactic central lymph node dissection for thyroid cancer regardless of tumor size ($P < 0.001$). They were also more likely to favor radioactive iodine in patients with intrathyroidal unifocal cancer ≤1 cm ($P = 0.001$), 1.1-2 cm ($P = 0.004$), as well as intrathyroidal multifocal cancer ≤1 cm ($P = 0.004$). In multivariable analysis, high hospital case volume, fewer surgeon years of experience, general surgery specialty, and preference for more extensive resection were independently associated with greater hospital-level use of radioactive iodine for stage I disease.

CONCLUSIONS:
In addition to surgeon experience and specialty, surgeons' tendency to perform more extensive thyroid resection is associated with greater use of radioactive iodine for stage I thyroid cancer.

PMID: 23567930

http://dx.doi.org/10.1097/SLA.0b013e31826c8915

2. J Surg Oncol. 2013 Jul;108(1):47-51. doi: 10.1002/jso.23345. Epub 2013 Apr 26. **IF: 2.97**

Patients' experiences following local-regional recurrence of thyroid cancer: a qualitative study.

Misra S, Meiyappan S, Heus L, Freeman J, Rotstein L, Brierley JD, Tsang RW, Rodin G, Ezzat S, Goldstein DP, Sawka AM.

Source

Faculty of Medicine, University of Toronto, Toronto, Ontario, Canada.

Abstract

BACKGROUND AND OBJECTIVE:
The psychosocial impact of local-regional thyroid cancer recurrence is not known. The aim of this study was to explore thyroid cancer patients' experiences relating to diagnosis and treatment of local-regional disease recurrence.

METHODS:
We conducted 15 semi-structured interviews with survivors of differentiated thyroid cancer who underwent neck reoperation for recurrent disease. Participants were recruited from the clinical practices of thyroid surgeons and endocrinologists at University Health Network and Mount Sinai Hospitals in Toronto, Ontario. Participant interviews were audio-recorded, transcribed verbatim, and analyzed using qualitative methods. Saturation of themes was achieved.

RESULTS:
Local-regional recurrence of thyroid cancer was associated with significant psychological distress. Confidence in healthcare providers as well as psychosocial support from family or social relations, were helpful in coping with disease recurrence. After recovery from treatment, post-traumatic growth was reported. However, questions and worry about the risk for future recurrence lingered at follow-up.

CONCLUSIONS:
Local-regional recurrence of thyroid cancer has a significant psychosocial impact on patients, and support needs are heightened throughout the experience. Healthcare providers should strive to ensure that medical information and psychosocial needs of such patients are met, throughout the treatment experience, as well as at follow-up.

PMID: 23625380

http://dx.doi.org/10.1002/jso.23345

3. Am J Med Sci. 2013 Jul;346(1):73-5. doi: 10.1097/MAJ.0b013e318288a6fa. **IF: 1.39**

Pretibial myxedema without ophthalmopathy: an initial presentation of Graves' disease.

Lohiya S, Lohiya V, Stahl EJ.

Source

Department of Internal Medicine, Baptist Health System, Birmingham, AL 35213, USA. sheela.subramanyam@bhsala.com

Abstract

OBJECTIVE:
To report a rare case of Graves' disease without ophthalmopathy presenting with pretibial myxedema (PM) as an initial presentation.

METHODS:
We present the clinical history, physical findings, laboratory studies and biopsy data of a 62-year-old man with a history of uncontrolled type 2 diabetes (DM2) presenting with arm and leg skin lesions in the absence of other physical findings. Histopathology confirmed PM. Graves' disease and its association with PM without Graves' ophthalmopathy and the pertinent literature are reviewed.

RESULTS:
A 60-year-old man with a history of uncontrolled DM2 presented for glycemic management. He described symptoms of anxiety, insomnia and fatigue for the last 5 to 6 months. He described diffuse chest pain, occasionally associated with palpitations, and a 50-pound weight loss. He also complained of severe itching and burning of his arms and legs for the past several months. Subsequent thyroid studies revealed hyperthyroidism suggestive of Graves' disease. In the interim, he was hospitalized for atrial flutter and was cardioverted. After being started on methimazole, his symptoms abated. His skin lesions were biopsied, and the leg biopsy was consistent with PM. He however had no lid lag or proptosis characteristic of Graves' disease. He subsequently underwent radioiodine ablation. His hyperglycemia was better control led after treatment of his hyperthyroidism.

CONCLUSIONS:
PM is an autoimmune manifestation of Graves' disease. Almost all cases of thyroid dermopathy are associated with relatively severe ophthalmopathy. Usually ophthalmopathy appears first and dermopathy much later. However, this case represents a rare initial presentation of Graves' disease with PM without ophthalmologic symptoms or findings. Hyperthyroidism is typically associated with worsening glycemic control and increased insulin requirements. In patients with diabetes having hyperthyroidism, deterioration in glycemic control should be anticipated and treatment should be adjusted accordingly. Restoration of euthyroidism will lower the blood glucose level.

PMID: 23514670

http://dx.doi.org/10.1097/MAJ.0b013e318288a6fa

PARATİROİD

DERLEME

1. Mol Cell Endocrinol. 2013 Sep 11. pii: S0303-7207(13)00367-5. doi: 10.1016/j.mce.2013.09.005. [Epub ahead of print] **IF: 4.17**

Genetic and epigenetic changes in sporadic endocrine tumors: Parathyroid tumors.

Costa-Guda J, Arnold A.

Source

Center for Molecular Medicine and Division of Endocrinology & Metabolism, University of Connecticut School of Medicine, Farmington, CT 06030-3101, USA.

Abstract

Parathyroid neoplasia is most commonly due to benign parathyroid adenoma but rarely can be caused by malignant parathyroid carcinoma. Evidence suggests that parathyroid carcinomas rarely, if ever, evolve through an identifiable benign intermediate, with the notable exception of carcinomas associated with the familial hyperparathyroidism-jaw tumor syndrome. Several genes have been directly implicated in the pathogenesis of typical sporadic parathyroid adenoma; somatic mutations in the MEN1 tumor suppressor gene are the most frequent finding, and alterations in the cyclin D1/PRAD1 oncogene are also firmly established molecular drivers of sporadic adenomas. In addition, good evidence supports mutation in the CDKN1B/p27 cyclin-dependent kinase inhibitor (CDKI) gene, and in other CDKI genes as contributing to disease pathogenesis in this context. Somatic defects in additional genes, including β-catenin, POT1 and EZH2 may contribute to parathyroid adenoma formation but, for most, their ability to drive parathyroid tumorigenesis remains to be demonstrated experimentally. Further, genetic predisposition to sporadic presentations of parathyroidadenoma appears be conferred by rare, and probably low-penetrance, germline variants in CDKI genes and, perhaps, in other genes such as CASR and AIP. The HRPT2 tumor suppressor gene is commonly mutated in parathyroid carcinoma.

KEYWORDS:

Hyperparathyroidism, Parathyroid adenoma, Parathyroid carcinoma

PMID: 24035866

http://dx.doi.org/10.1016/j.mce.2013.09.005

PARATİROİD

PROSPEKTİF

1. Surgery. 2013 Sep 11. pii: S0039-6060(13)00471-6. doi: 10.1016/j.surg.2013.08.013. [Epub ahead of print] **IF: 3.19**

Parathyroidectomy improves symptomatology and quality of life in patients with secondary hyperparathyroidism.

Cheng SP, Lee JJ, Liu TP, Yang TL, Chen HH, Wu CJ, Liu CL.

Source

Department of Surgery, Mackay Memorial Hospital, Taipei, Taiwan; Mackay Medical College, New Taipei City, Taiwan; Department of Pharmacology and Graduate Institute of Medical Sciences, Taipei Medical University, Taipei, Taiwan.

Abstract

BACKGROUND:
The parathyroidectomy assessment of symptoms (PAS) score was designed initially for primary hyperparathyroidism to provide a specific symptom assessment and was validated later in secondary and tertiary hyperparathyroidism. The aim of our study was to evaluate changes in the PAS scores and quality of life before and after parathyroidectomy for secondary hyperparathyroidism.

METHODS:
This prospective study included 49 consecutive patients who underwent parathyroidectomy for secondary hyperparathyroidism. The PAS and Short Form (SF)-36 questionnaires were completed before parathyroidectomy and at 12 months postoperatively.

RESULTS:
All 13 symptoms included in the PAS score improved significantly. The mean ± standard deviation PAS score decreased from 545 ± 263 to 284 ± 201 ($P < .0001$) after parathyroidectomy. Quality of life was enhanced in both physical (40.3 ± 17.1 to 59.0 ± 14.9; $P < .0001$) and mental (47.6 ± 17.1 to 63.7 ± 13.0; $P < .0001$) components. The PAS score was inversely correlated with the SF-36 global score preoperatively and postoperatively ($r^2 = 0.48$ and 0.25; $P < .001$). The change in PAS score also correlated with the change in SF-36 global score ($r^2 = 0.29$; $P < .001$). Multiple linear regression analysis showed that preoperative PAS score and bone mineral density T-score were predictors of the decrease in PAS score. Preoperative SF-36 global score and intact parathyroid hormone levels were predictors of the increment in SF-36 score.

CONCLUSION:
The symptom burden of secondary hyperparathyroidism has a negative impact on a patient's quality of life. Parathyroidectomy is associated with a marked improvement in symptoms and quality of life.

PMID: 24035616

http://dx.doi.org/10.1016/j.surg.2013.08.013

2. Am J Surg. 2013 Jul 5. pii: S0002-9610(13)00286-9. doi: 10.1016/j.amjsurg.2013.01.038. [Epub ahead of print] **IF: 2.39**

Intact parathyroid hormone measurement at 24 hours after thyroid surgery as predictor of parathyroid function at long term.

Julián MT, Balibrea JM, Granada ML, Moreno P, Alastrué A, Puig-Domingo M, Lucas A.

Source

Endocrinology and Nutrition Service, Germans Trias i Pujol University Hospital, Department of Medicine, Universitat Autònoma de Barcelona, Badalona, Barcelona, Spain. Electronic address: mtjulian.germanstrias@gencat.cat.

Abstract

BACKGROUND:
There is no consensus about the usefulness of postoperative intact parathyroid hormone (iPTH) determination to predict permanent hypoparathyroidism (pHPP). We evaluated the value of calcium (Ca^{2+}) and iPTH concentration at 24 hours after total thyroidectomy (TT) for predicting pHPP.

METHODS:
Ca^{2+} and iPTH levels from 70 consecutive patients who underwent TT were measured at 24 hours and 6 months after TT.

RESULTS:
Five patients (7.1%) developed pHPP. An iPTH concentration ≤5.8 pg/mL at 24 hours after TT identified patients at risk for pHPP (sensitivity, 100%; specificity, 81.5%), but it was not accurate enough to predict its development (positive predictive value, 30%). Conversely, an iPTH level >5.8 pg/mL predicted normal parathyroid function at 6 months (negative predictive value, 100%). Compared with iPTH, a postoperative Ca^{2+} level ≤1.95 mmol/L was 60% sensitive and 78.5% specific to predict pHPP.

CONCLUSIONS:
An iPTH concentration >5.8 pg/mL on the first postoperative day rules out pHPP with much better diagnostic accuracy than Ca^{2+}. Postoperative iPTH could be helpful in identifying patients at risk for developing pHPP.

KEYWORDS:

Permanent hypoparathyroidism, Postoperative hypocalcemia, Total thyroidectomy

PMID: 23835208

http://dx.doi.org/10.1016/j.amjsurg.2013.01.038

3. J Comput Assist Tomogr. 2013 Jul-Aug;37(4):511-7. doi: 10.1097/RCT.0b013e31828beb34. **IF: 1.75**

Three-phase parathyroid 4-dimensional computed tomography initial experience: inexperienced readers have high accuracy and high interobserver agreement.

Sepahdari AR, Yeh MW, Rodrigues D, Khan SN, Harari A.

Source

Department of Radiological Sciences, David Geffen School of Medicine, University of California, Los Angeles, CA 90095, USA. asepahdari@mednet.ucla.edu

Abstract

OBJECTIVE:
Multiphase multidetector contrast-enhanced parathyroid CT (4-dimensional computed tomography [4D-CT]) is an emerging tool for evaluating patients with primary hyperparathyroidism. Our goal was to describe the initial performance of 2 inexperienced readers in interpretation of 4D-CT.

METHODS:
Twenty-three subjects who received 4D-CT and successful surgical exploration were studied (14 initial and 9 repeat explorations; 15 single-gland disease and 8 multigland disease) A staff neuroradiologist prospectively interpreted all studies, and a neuroradiology fellow retrospectively interpreted all studies; their results were compared with the surgical findings for each side of the neck separately.

RESULTS:
The prospective readings were 78% accurate overall, 97% accurate in the subset of single-gland disease cases, and 89% accurate in re-exploration cases. There was 91% concordance in interpretation between observers, with κ of 0.83.

CONCLUSIONS:
Initial results after implementation of 4D-CT show high accuracy of interpretation for inexperienced observers, comparable to published data, and high interobserver agreement.

PMID: 23863525
http://dx.doi.org/10.1097/RCT.0b013e31828beb34

4. J Cancer. 2013 Jul 3;4(6):458-63. doi: 10.7150/jca.6755. Print 2013. **IF: 1.04**

A comparison of minimally invasive video-assisted parathyroidectomy and traditional parathyroidectomy forparathyroid adenoma.

Rio PD, Vicente D, Maestroni U, Totaro A, Pattacini GM, Avital I, Stojadinovic A, Sianesi M.

Source

1. Department of Surgery -University Hospital of Parma;

Abstract

Background: Pre-operative imaging techniques for sporadic primary hyperparathyroidism (SPHPT) and intraoperative parathyroid hormone (ioPTH) have led to the wide spread use of minimally invasive surgical approaches. Study Design: In our prospectively collected database, 157 subjects with SPHPT and a preoperative diagnosis of parathyroid adenoma were treated with parathyroidectomy between January 2003 and November 2011. Subjects in group A were enrolled between January 2003 to September 2006,

and underwent traditional parathyroidectomy with intraoperative frozen section and bilateral neck exploration. Subjects in group B were enrolled between September 2006 to November 2011, and underwent minimally invasive video-assisted parathyroidectomy (MIVAP) with ioPTH. Operative times and post-operative pain levels were compared between groups. Subjects were followed for a minimum of 6 months post-operatively and recurrence rates and complication rates were measured between groups. Results: 81 subjects were enrolled in group A, and 76 subjects were enrolled in group B. Pre-operative evaluation demonstrated that the groups were statistically similar. Significantly decreased operative times (28min vs. 62min) and post-operative pain levels were noted in group B. Recurrence rates were similar between group A (3.7%) and group B (2.6%). Conclusions: MIVAP with ioPTH demonstrated significantly improved operative times and post-operative pain levels, while maintaining equivalent recurrence rates.

KEYWORDS:

Parathyroidectomy, minimally invasive surgical approach

PMID: 23901344

http://dx.doi.org/10.7150/jca.6755

5. Am Surg. 2013 Jul;79(7):681-5. **IF: 0.98**

Surgeon-performed ultrasound for primary hyperparathyroidism.

Schenk WG 3rd, Hanks JB, Smith PW.

Source

Department of Surgery, University of Virginia, Charlottesville, Virginia 22908, USA. wgs@virginia.edu

Abstract

The role of preoperative parathyroid imaging continues to evolve. This study evaluated whether surgeon-performed ultrasound (U/S) obviates the need for other imaging studies and leads to a focused exploration with a high degree of surgical success. From July 2010 to February 2012, 200 patients presenting with nonfamilial primary hyperparathyroidism underwent neck U/S in the surgeon's office. The U/S interpretation was classified as Class 1 if an adenoma was identified with high confidence, Class 2 if a possible but not definite enlarged gland was imaged, and Class 0 (zero) if no adenoma was identified. The findings were correlated with subsequent intraoperative findings. There were 144 Class 1 U/Ss (72%); of 132 patients coming to surgery, 96.2 per cent had surgical findings concordant with preoperative U/S and all had apparent surgical cure. Twenty-nine patients (14.5%) had Class 2 U/S; the 31 per cent confirmed false-positives in this group were usually colloid nodules. Fourteen of 27 with Class 0 U/S underwent surgery after being offered dynamically enhanced computed tomography scan. All 200 patients were apparent surgical cures. Surgeon-performed U/S is expedient, convenient, inexpensive, and accurate. A clearly identified adenoma can safely lead to a focused limited exploration and avoid additional imaging 93 per cent of the time.

PMID: 23816000

PARATİROİD

RETROSPEKTİF

1. Surgery. 2013 Jul;154(1):101-5. doi: 10.1016/j.surg.2013.03.004. **IF: 3.19**

Minimally invasive parathyroidectomy provides a conservative surgical option for multiple endocrine neoplasia type 1-primary hyperparathyroidism.

Versnick M, Popadich A, Sidhu S, Sywak M, Robinson B, Delbridge L.

Source

University of Sydney Endocrine Surgical Unit, and Kolling Institute of Medical Research, University of Sydney, Sydney, Australia.

Abstract

BACKGROUND:
Many authors advocate routine subtotal parathyroidectomy or total parathyroidectomy and autotransplantation for patients with multiple endocrine neoplasia type 1 (MEN1). Many of these patients are young and recurrence may take decades. Four-gland parathyroid exploration carries a higher risk of complication than minimally invasive parathyroidectomy (MIP). The aim of this study was to assess the role of selective removal of only abnormal glands for MEN1 in the era of MIP.

METHODS:
For this retrospective, cohort study we collected data on patients undergoing parathyroidectomy for MEN1 from an endocrine surgery database. We reviewed preoperative localization studies, operative findings, histopathology, and clinical outcomes.

RESULTS:
Twenty-six patients underwent parathyroidectomy for MEN1-associated hyperparathyroidism over the 23-year study period. Six of 10 (60%) patients in the total parathyroidectomy group and 4 of 10 (40%) patients in the subtotal parathyroidectomy group developed hypocalcemia. The subtotal and total parathyroidectomy groups both had a recurrence rate of 30% with a mean follow-up rate of 106 and 133 months, respectively. The MIP group had no hypocalcemia or recurrence with a mean follow-up of 19 months.

CONCLUSION:
MIP with excision of only documented abnormal parathyroid glands provides an acceptable outcome for patients with MEN1, avoiding the potential for permanent hypoparathyroidism in young patients. It is accepted that recurrent disease is inevitable in these patients; however, such recurrence may take decades to occur and may be able to be dealt with by a further focused procedure.

PMID: 23809488

http://dx.doi.org/10.1016/j.surg.2013.03.004

2. Surgery. 2013 Oct;154(4):714-9. doi: 10.1016/j.surg.2013.05.013. Epub 2013 Aug 23. **IF: 3.19**

Do giant parathyroid adenomas represent a distinct clinical entity?

Spanheimer PM, Stoltze AJ, Howe JR, Sugg SL, Lal G, Weigel RJ.

Source

Department of Surgery, University of Iowa, Iowa City, IA.

Abstract

BACKGROUND:
The size of abnormal parathyroid glands in patients with primary hyperparathyroidism (PHPT) is highly variable, but the clinical significance of giant glands is unknown.

METHODS:
We reviewed 300 consecutive patients after parathyroidectomy for PHPT. We compared patients with giant parathyroid adenomas (weight ≥95th percentile) with the remaining patients.

RESULTS:
Giant adenomas were defined as weight ≥95th percentile or 3.5 g (median, 0.61; range, 0.05-29.93). Patients with giant adenomas had a greater mean preoperative calcium level, greater mean parathyroid hormone (PTH) level, and were less likely to have multiglandular or symptomatic disease. Giant adenomas were successfully localized on imaging in 87% of patients, which was not increased over other patients (82%). There were no differences between the groups in age, gender, gland location, or the incidence of persistent or recurrent hyperparathyroidism. Finally, giant glandshad an increased incidence of symptomatic postoperative hypocalcemia, including 1 patient who required rehospitalization after removal of a giant gland.

CONCLUSION:
Giant parathyroid adenomas have a distinct presentation characterized by single gland disease and lower incidence of symptoms despite increased levels of calcium and PTH. Additionally, after resection of a giant adenoma, patients are more likely to develop symptomatic hypocalcemia.

PMID: 23978594

http://dx.doi.org/10.1016/j.surg.2013.05.013

3. Surgery. 2013 Sep;154(3):453-60. doi: 10.1016/j.surg.2013.05.034. **IF: 3.19**

Efficacy of localization studies and intraoperative parathormone monitoring in the surgical management of hyperfunctioning ectopic parathyroid glands.

Albuja-Cruz MB, Allan BJ, Parikh PP, Lew JI.

Source

Division of Surgical Endocrinology, DeWitt Daughtry Family Department of Surgery, University of Miami Leonard M. Miller School of Medicine, Miami, FL; Division of GI, Tumor and Endocrine Surgery, University of Colorado School of Medicine, Aurora, CO. Electronic address: maria.albuja-cruz@ucdenver.edu.

Abstract

BACKGROUND:

Hyperfunctioning ectopic glands remain an operative challenge in patients with sporadic primary hyperparathyroidism. This study examines the incidence of ectopic glands and the utility of sestamibi scans (MIBI), surgeon-performed ultrasonography, and intraoperative parathormone monitoring in such patients undergoing parathyroidectomy.

METHODS:
We conducted a retrospective analysis of prospectively collected data from patients who underwent parathyroidectomy from 1980 to 2011 for sporadic primary hyperparathyroidism at a single institution. Demographics, localizing imaging studies, intraoperative parathyroid monitoring dynamics, and surgical outcome for patients with hyperfunctioning ectopic parathyroid glands were studied.

RESULTS:
Among 1,195 patients who underwent parathyroidectomy for sporadic primary hyperparathyroidism, 120 patients (10%) had hyperfunctioning ectopic glands, which were localized to the neck (n = 66) and mediastinum (n = 54). MIBI had a sensitivity of 85%, specificity of 97%, and positive predictive value (PPV) of 91% for ectopic glands in the neck, whereas in the mediastinum there was a sensitivity of 88%, specificity of 95%, and PPV of 86%. Surgeon-performed ultrasonography had a sensitivity of 81%, specificity of 98%, and PPV of 95% for neck ectopic glands. The overall accuracy of surgeon-performed ultrasonography, MIBI, and intraoperative parathyroid monitoring in the neck or mediastinum was 93%. Overall, operative success was 93% with a multiglandular disease rate of 5%.

CONCLUSION:
A high operative success rate for hyperfunctioning ectopic glands can be achieved using localization studies and intraoperativeparathyroid monitoring. Nevertheless, surgeon judgment remains paramount in the operative direction of this patient population.

PMID: 23972651
http://dx.doi.org/10.1016/j.surg.2013.05.034

4. World J Surg. 2013 Aug;37(8):1966-72. doi: 10.1007/s00268-013-2054-1. **IF: 2.47**

Utility of intraoperative parathyroid hormone monitoring in patients with multiple endocrine neoplasia type 1-associated primary hyperparathyroidism undergoing initial parathyroidectomy.

Nilubol N, Weisbrod AB, Weinstein LS, Simonds WF, Jensen RT, Phan GQ, Hughes MS, Libutti SK, Marx S, Kebebew E.

Source

Endocrine Oncology Branch, Center for Cancer Research, National Cancer Institute, National Institutes of Health, 10 Center Drive, MSC1201 Room 3-3940, Bethesda, MD 20892-1201, USA. niluboln@mail.nih.gov

Abstract

BACKGROUND:
Intraoperative parathyroid hormone monitoring (IOPTH) is a widely used adjunct for primary hyperparathyroidism (pHPT). However, the benefit of IOPTH in familial pHPT, such as in multiple endocrine neoplasia type I (MEN1), remains unclear.

METHODS:
We performed a retrospective analysis of 52 patients with MEN1-associated pHPT undergoing initial parathyroidectomy with IOPTH monitoring at our institution. Parathyroid hormone (PTH) levels were measured before skin incision and 10 min after resection of the last parathyroidgland. Variables analyzed

included percent drop of PTH from baseline and the final PTH level compared to the normal reference range (RR).

RESULTS:
A total of 52 patients underwent initial subtotal parathyroidectomy with IOPTH. An IOPTH decrease cutoff of ≥75 % from baseline had the highest biochemical cure rate (87 %). In the remaining 13 % who met this cutoff, all had persistent pHPT, with ≥90 % drop of PTH from baseline. The remaining patients, who did not meet the ≥75 % cutoff, were cured. Follow-up was available for three of four patients with final IOPTH levels above the RR: one had persistent pHPT, two had hypoparathyroidism (50 %). When a postresection PTH level was within the RR, 88 % of patients were cured. While considered cured from pHPT, 7 % of patients in this group developed permanent hypoparathyroidism. When the final PTH level dropped below the RR, 28 % developed permanent hypoparathyroidism.

CONCLUSIONS:
A cutoff in IOPTH decrease of ≥75 % from baseline has the highest biochemically cure rate in patients with pHPT associated with MEN1. However, a 75 % cutoff in IOPTH decrease does not exclude persistent pHPT. The absolute IOPTH value does not accurately predict postoperative hypoparathyroidism.

PMID: 23722465
http://dx.doi.org/10.1007/s00268-013-2054-1

5. Ann Thorac Surg. 2013 Aug 20. pii: S0003-4975(13)01171-5. doi: 10.1016/j.athoracsur.2013.05.084. [Epub ahead of print] **IF: 2.32**

Minimally Invasive Resection for Mediastinal Ectopic Parathyroid Glands.

Said SM, Cassivi SD, Allen MS, Deschamps C, Nichols FC, Shen KR, Wigle DA.

Source

Division of General Thoracic Surgery, Mayo Clinic, Rochester, Minnesota.

Abstract

BACKGROUND:
We reviewed our experience with ectopic mediastinal parathyroidectomy.

METHODS:
Between March 1980 and September 2010, mediastinal parathyroidectomy was performed in 33 patients with hypercalcemia secondary to hyperparathyroidism.

RESULTS:
Primary hyperparathyroidism was the main diagnosis in 32 patients (97%). Technetium-sestamibi scan was used in 23 (70%) for preoperative localization. Minimally invasive resections were performed in 18 patients (55%), and 15 (45%) underwent open surgery. The most common minimally invasive surgery approach was video-assisted thoracoscopy in 9 patients (27%); the most common open approach was median sternotomy in 11 (33%). Intraoperative parathyroid hormone monitoring was used in 22 patients (67%). The ectopic glands were intrathymic in 15 patients (45%), in the aortopulmonary window in 7 (21%), and in other intrathoracic locations in the remaining 11 (33%). Parathyroid adenomas were identified in 21 patients (64%); parathyroid hyperplasia and carcinoma were identified in 9 (27%) and 3 (9%), respectively. No early mortality occurred in either group. Reoperation was required in 1 patient in the minimally invasive surgery group because of hemothorax. Morbidity occurred in 8 patients (24%), the most common of which was hypocalcemia in 4 (12%). The mean length of stay was significantly shorter in the minimally invasive surgery group (2 versus 6 days; $p < 0.001$) but mortality and morbidity were not statistically different between the two groups ($p = 0.05$). Mean follow-up was 3 ± 3.7 years.

CONCLUSIONS:
Minimally invasive mediastinal parathyroidectomy has similar outcomes to open surgery, with significantly shorter length of hospital stay.

PMID: 23968765
http://dx.doi.org/10.1016/j.athoracsur.2013.05.084

6. JAMA Surg. 2013 Jul;148(7):602-6. doi: 10.1001/jamasurg.2013.104. **IF: 2.21**

Factors that influence parathyroid hormone half-life: determining if new intraoperative criteria are needed.

Leiker AJ, Yen TW, Eastwood DC, Doffek KM, Szabo A, Evans DB, Wang TS.

Source

Department of Surgery, Medical College of Wisconsin, Milwaukee, WI 53226, USA.

Abstract

IMPORTANCE:
Minimally invasive parathyroidectomy using intraoperative parathyroid hormone monitoring remains the standard approach to the majority of patients with primary hyperparathyroidism. This study demonstrates that individual patient characteristics do not affect existing criteria for intraoperative parathyroid hormone monitoring.

OBJECTIVE:
To identify patient characteristics, such as age, sex, race, body mass index (BMI), and renal function, that may affect existing criteria for intraoperative parathyroid hormone (IOPTH) levels during minimally invasive parathyroidectomy.

DESIGN:
Retrospective review of a prospectively collected parathyroid database populated from August 2005 to April 2011.

SETTING:
Academic medical center.

PARTICIPANTS:
Three hundred six patients with sporadic primary hyperparathyroidism who underwent initial parathyroidectomy between August 2005 and April 2011.

INTERVENTIONS:
All patients underwent minimally invasive parathyroidectomy with complete IOPTH information.

MAIN OUTCOME AND MEASURES:
Individual IOPTH kinetic profiles were fitted with an exponential decay curve and individual IOPTH half-lives were determined. Univariate and multivariate analyses were performed to determine the association between patient demographics or laboratory data and IOPTH half-life.

RESULTS:
Mean age of the cohort was 60 years, 78.4% were female, 90.2% were white, and median BMI was 28.3. Overall, median IOPTH half-life was 3 minutes, 9 seconds. On univariate analysis, there was no association between IOPTH half-life and patient age, renal function, or preoperative serum calcium or parathyroid hormone levels. Age, BMI, and an age × BMI interaction were included in the final multivariate median regression analysis; race, sex, and glomerular filtration rate were not predictors of IOPTH half-life.

The IOPTH half-life increased with increasing BMI, an effect that diminished with increasing age and was negligible after age 55 years (P = .001).

CONCLUSIONS AND RELEVANCE:
Body mass index, especially in younger patients, may have a role in the IOPTH half-life of patients undergoing parathyroidectomy. However, the differences in half-life are relatively small and the clinical implications are likely not significant. Current IOPTH criteria can continue to be applied to all patients undergoing parathyroidectomy for sporadic primary hyperparathyroidism.

Comment in

- Intraoperative parathyroid hormone criteria: the quest for perfection: Comment on "Factors that influence parathyroid hormone half-life". [JAMA Surg. 2013]

PMID: 23677330
http://dx.doi.org/10.1001/jamasurg.2013.104

7. BMC Surg. 2013 Sep 18;13(1):36. [Epub ahead of print] **IF: 2.06**

Intraoperative parathyroid hormone assay during focused parathyroidectomy: the importance of 20 minutes measurement.

Calò PG, Pisano G, Loi G, Medas F, Barca L, Atzeni M, Nicolosi A.

Abstract

BACKGROUND:
Parathyroid hormone (PTH) monitoring during the surgical procedure can confirm the removal of all hyperfunctioning parathyroidtissue, as the half-life of PTH is approximately 5 min. The commonly applied Irvin criterion is reported to correctly predict post-operative calcium levels in 96-98% of patients. However, the PTH baseline reference concentration is markedly influenced by surgical manipulations during preparation of the affected glands, interindividual variability of the PTH half-life and modifications in the physiological state of the patient during surgery. The aim of this study was to evaluate the possible impact of the measurement of intraoperative PTH 20 minutes after surgery.

METHODS:
Between 2003 and 2012, 188 patients underwent a focused parathyroidectomy associated to rapid intraoperative PTH assay monitoring. Blood samples were collected: 1) at pre-incision time, 2) at 10 min after gland excision and 3) at 20 min after excision, if a sufficient reduction of PTH value was not observed. On the bases of the Irvin criterion, an intra-operative PTH drop>50% from the highest either pre-incision or pre-excision level after parathyroid excision was considered a surgical success.

RESULTS:
A >50% decrease of PTH after gland excision compared to the highest pre-excision value occurred in 156/188 patients (83%) within 10 min and in further 12/188 after 20 minutes (6.4%). In the remaining 20 patients (10.6%) values of PTH remained substantially unchanged or decreased less than 50% and for this reason bilateral neck exploration was performed. An additional pathologic parathyroid was removed in 9 cases, a third in one. In the other 10 cases further neck exploration by a standard cervical approach was negative and in four of these persistent postoperative hypercalcemia was demonstrated. The overall operative success was 97.3%. Intraoperative PTH monitoring was accurate in predicting operative success or failure in 96.3% of patients.

CONCLUSIONS:

The 20 minutes PTH measurement appears very useful, avoiding unnecessary bilateral exploration and the related risk of complications with only a slight increase of the duration of surgery and of the costs. PTH values decreasing appeared to be influenced by surgical manipulations during minimally invasive parathyroidectomy.

PMID: 24044556

8. JAMA Otolaryngol Head Neck Surg. 2013 Sep 5. doi: 10.1001/jamaoto.2013.4505. [Epub ahead of print] **IF: 1.68**

Causes of Emergency Department Visits Following Thyroid and Parathyroid Surgery.

Young WG, Succar E, Hsu L, Talpos G, Ghanem TA.

Source

Department of Otolaryngology-Head and Neck Surgery, Henry Ford Health System, Detroit, Michigan.

Abstract

IMPORTANCE With reimbursement being increasingly tied to outcome measures, minimizing unexpected health care needs in the postoperative period is essential. This article describes reasons for emergency department (ED) evaluation, rates of readmission to the hospital, and significant risk factors for readmission during the postoperative period. OBJECTIVE To describe the subset of patients requiring ED evaluation within 30 days of thyroidectomy or parathyroidectomy and their associated risk factors. DESIGN, SETTING, AND PATIENTS Retrospective chart review in a tertiary care center of adult patients who underwent thyroidectomy or parathyroidectomy between January 1, 2009 and October 7, 2010. Patients were identified from an institutional review board-approved database. Postoperative patients who visited the emergency department (ED) within the first 30 days following surgery were selected and compared with the postoperative patients who did not visit the ED. EXPOSURES Thyroidectomy or parathyroidectomy. MAIN OUTCOMES AND MEASURES Statistical analysis evaluated the association of demographic and clinical characteristics between the patients who required ER evaluation and those who did not. Clinical characteristics evaluated included type of surgery, medical comorbidities, and proton pump inhibitor (PPI) usage. Multiple logistic regression predicted the odds of an ED visit based on presence of diabetes, gastroesophageal reflux disease (GERD), or PPI use. RESULTS Of the 570 patients identified, 64 patients required a visit to the ER a total of 75 times for issues including paresthesias (n = 28), wound complications (n = 8), and weakness (n = 6). Fifteen hospital admissions occurred for treatment of a variety of postoperative complications. A significant association was found between the presence of diabetes (P = .03), GERD (P = .04), and the current use of PPIs (P = .03). When controlling for diabetes and GERD, we found that patients taking PPIs were 1.81 times more likely to visit the ED than patients not taking PPIs (P = .04). CONCLUSIONS AND RELEVANCE Patients taking PPIs are 1.81 times more likely to require ED evaluation than those who are not taking PPIs.

PMID: 24008557

http://dx.doi.org/10.1001/jamaoto.2013.4505

PARATİROİD

VAKA SUNUMU

1. Head Neck. 2013 Sep;35(9):E265-8. doi: 10.1002/hed.23124. Epub 2012 Aug 21. **IF: 2.85**

Uncommon presentations of parathyroid adenoma.

Givens DJ, Hunt JP, Bentz BG.

Source

Department of Surgery, Division of Otolaryngology, Huntsman Cancer Institute, Salt Lake City, Utah.

Abstract

BACKGROUND:
Patients with parathyroid adenomas (PAs) are commonly encountered in otolaryngology and may present with asymptomatic hypercalcemia. Retropharyngeal hematoma and recurrent laryngeal nerve (RLN) paralysis are less commonly encountered presentations and may be harbingers of a malignant process.

METHODS AND RESULTS:
We present 2 patients with rare presentations of parathyroid adenoma. The first is a 57-year-old man with retropharyngeal hemorrhage and progressive airway compromise. The second is a 51-year-old woman presenting with dysphonia who was found to have RLN paralysis. Both of these patients were found to have benign disease.

CONCLUSIONS:
Although most patients with PA present with asymptomatic hypercalcemia, this disease entity must be considered in patients with other unusual presentations including hemorrhagic neck masses and dysphonia. The importance of a broad differential diagnosis and thorough workup is emphasized. © 2012 Wiley Periodicals, Inc. Head Neck, 2013.

KEYWORDS:

parathyroid adenoma, retropharyngeal hemorrhage, vocal cord paralysis

PMID: 22907766

http://dx.doi.org/10.1002/hed.23124

2. J Clin Ultrasound. 2013 Sep 4. doi: 10.1002/jcu.22090. [Epub ahead of print] **IF: 0.90**

Intrathyroidal parathyroid carcinoma mimicking a thyroid nodule in a MEN type 1 patient.

Lee KM, Kim EJ, Choi WS, Park WS, Kim SW.

Source

Department of Radiology, Graduate College of Medicine, Kyung Hee University, #26 Kyunghee-daero, Dongdaemun-gu, Seoul, 130-702, Korea.

Abstract

A 59-year-old woman with classic manifestations of hyperparathyroidism associated with multiple endocrine neoplasia type 1 presented with a right adrenal mass and two pituitary microadenomas on imaging studies. For evaluation of hypercalcemia, ^{99m}Tc-MIBI scintigraphy was done and showed focal uptake at the thyroid level of the right anterior neck. Subsequent neck sonography showed several thyroid nodules, but there was no parathyroidtumor. Percutaneous fine-needle aspiration of the dominant thyroid nodule indicated a follicular nodule. After surgery, final histopathology revealed intrathyroidal parathyroid carcinoma. This case illustrates the difficulty in diagnosing parathyroid carcinoma via fine-needle aspiration. © 2013 Wiley Periodicals, Inc. J Clin Ultrasound, 2013.

KEYWORDS:

multiple endocrine neoplasia type 1, parathyroid, carcinoma, ectopic location, ultrasonography

PMID: 24037737

http://dx.doi.org/10.1002/jcu.22090

ADRENAL

DERLEME

1. Eur Urol. 2013 Sep 20. pii: S0302-2838(13)01008-7. doi: 10.1016/j.eururo.2013.09.021. [Epub ahead of print] **IF: 10.90**

Robotic Versus Laparoscopic Adrenalectomy: A Systematic Review and Meta-analysis.

Brandao LF, Autorino R, Laydner H, Haber GP, Ouzaid I, De Sio M, Perdonà S, Stein RJ, Porpiglia F, Kaouk JH.

Source

Glickman Urological and Kidney Institute, Cleveland Clinic, Cleveland, OH, USA.

Abstract

CONTEXT:
Over the last decade, robot-assisted adrenalectomy has been included in the surgical armamentarium for the management of adrenalmasses.

OBJECTIVE:
To critically analyze the available evidence of studies comparing laparoscopic and robotic adrenalectomy.

EVIDENCE ACQUISITION:
A systematic literature review was performed in August 2013 using PubMed, Scopus, and Web of Science electronic search engines. Article selection proceeded according to the search strategy based on Preferred Reporting Items for Systematic Reviews and Meta-analysis criteria.

EVIDENCE SYNTHESIS:
Nine studies were selected for the analysis including 600 patients who underwent minimally invasive adrenalectomy (277 robot assisted and 323 laparoscopic). Only one of the studies was a randomized clinical trial (RCT) but of low quality according to the Jadad scale. However, the methodological quality of included nonrandomized studies was relatively high. Body mass index was higher for the laparoscopic group (weighted mean difference [WMD]: -2.37; 95% confidence interval [CI], - 3.01 to -1.74; p<0.00001). A transperitoneal approach was mostly used for both techniques (72.5% of robotic cases and 75.5% of laparoscopic cases; p=0.27). There was no significant difference between the two groups in terms of conversion rate (odds ratio [OR]: 0.82; 95% CI, 0.39-1.75; p=0.61) and operative time (WMD: 5.88; 95% CI, -6.02 to 17.79; p=0.33). There was a significantly longer hospital stay in the conventional laparoscopic group (WMD: -0.43; 95% CI, -0.56 to -0.30; p<0.00001), as well as a higher estimated blood loss (WMD: -18.21; 95% CI, -29.11 to -7.32; p=0.001). There was also no statistically significant difference in terms of postoperative complication rate (OR: 0.04; 95% CI, -0.07 to -0.00; p=0.05) between groups. Most of the postoperative complications were minor (80% for the robotic group and 68% for the conventional laparoscopic group). Limitations of the present analysis are the limited sample size and including only one low-quality RCT.

CONCLUSIONS:
Robot-assisted adrenalectomy can be performed safely and effectively with operative time and conversion rates similar to laparoscopic adrenalectomy. In addition, it can provide potential advantages of a shorter hospital stay, less blood loss, and lower occurrence of postoperative complications. These findings seem to support the use of robotics for the minimally invasive surgical management of adrenal masses.

KEYWORDS:

Adrenalectomy, Comparative, Laparoscopic, Meta-analysis, Robotic

PMID: 24079955

http://dx.doi.org/10.1016/j.eururo.2013.09.021

2. Mol Cell Endocrinol. 2013 Aug 7. pii: S0303-7207(13)00327-4. doi: 10.1016/j.mce.2013.07.032. [Epub ahead of print] **IF: 4.17**

Familial pheochromocytomas and paragangliomas.

King KS, Pacak K.

Source

Program in Reproductive and Adult Endocrinology, Eunice Kennedy Shriver National Institute of Child Health and Human Development, National Institutes of Health, Bethesda, MD 20892, USA.

Abstract

Pheochromocytomas and paragangliomas are neural crest cell tumors of the adrenal medulla and parasympathetic/sympathetic ganglia, respectively, that are often associated with catecholamine production. Genetic research over the years has led to our current understanding of the association 13 susceptibility genes with the development of these tumors. Most of the susceptibility genes are now associated with specific clinical presentations, biochemical makeup, tumor location, and associated neoplasms. Recent scientific advances have highlighted the role of somatic mutations in the development of pheochromocytoma/paraganglioma as well as the usefulness of immunohistochemistry in triaging genetic testing. We can now approach genetic testing in pheochromocytoma/paraganglioma patients in a very organized scientific way allowing for the reduction of both the financial and emotional burden on the patient. The discovery of genetic predispositions to the development of pheochromocytoma/paraganglioma not only facilitates better understanding of these tumors but will also lead to improved diagnosis and treatment of this disease.

KEYWORDS:

MEN2, NF1, Paraganglioma, Pheochromocytoma, SDHA, VHL

PMID: 23933153

http://dx.doi.org/10.1016/j.mce.2013.07.032

3. Arch Pathol Lab Med. 2013 Jul;137(7):1009-14. doi: 10.5858/arpa.2012-0291-RS. **IF: 3.27**

Adrenal schwannoma: a rare type of adrenal incidentaloma.

Mohiuddin Y, Gilliland MG.

Source

Department of Pathology and Laboratory Medicine, Brody School of Medicine at East Carolina University, Greenville, North Carolina 27858-4353, USA. mohiuddiny@ecu.edu

Abstract

Adrenal schwannoma is a rare type of adrenal incidentaloma, an adrenal lesion found incidentally, usually on imaging or autopsy. Computed tomography and magnetic resonance imaging are tools used to evaluate adrenal lesions. The diagnosis of adrenal schwannoma, however, cannot be made on imaging alone. Surgical resection is the primary means of management of adrenal schwannomas, as it is not possible to distinguish the schwannoma from malignant entities simply based on imaging. Histopathologic features of adrenal schwannomas are similar to those of schwannomas found at other sites. Conventional schwannomas, consisting of alternating Antoni A and Antoni B areas as well as Verocay bodies, have distinct microscopic features and can be readily distinguished from other entities. Cellular schwannomas, on the other hand, consist only of intersecting fascicles of spindle cells or Antoni A areas, resulting in a wide differential diagnosis. Ancillary studies such as immunohistochemical analysis and electron microscopy can help to provide a specific diagnosis.

PMID: 23808475

http://dx.doi.org/10.5858/arpa.2012-0291-RS

4. J Comput Assist Tomogr. 2013 Jul-Aug;37(4):528-42. doi: 10.1097/RCT.0b013e31828b690d. **IF: 1.75**

Adrenal masses: contemporary imaging characterization.

Malayeri AA, Zaheer A, Fishman EK, Macura KJ.

Source

Department of Radiology and Radiological Sciences, Johns Hopkins Medical Institution, Baltimore, MD 21287, USA. amalayeri@jhmi.edu

Abstract

Adrenal masses are among the most common incidentally discovered lesions on cross-sectional imaging with estimated incidence of approximately 5%. In addition, adrenal lesions can also be detected as part of an endocrinology workup with suspicion of a functional adrenal mass. Regardless of the source of detection, it is crucial to differentiate a benign from a malignant process and furthermore utilize characteristic imaging appearance of different adrenal masses to facilitate diagnosis and guide management. There are numerous imaging protocols and postprocessing methods for evaluation of adrenal masses with high sensitivity and specificity with small differences between institutions. Currently, the most widely used imaging modality for evaluation of adrenal mass is computed tomography without and with contrast washout assessment. In this article, we review diagnostic approaches to adrenal masses using computed tomography and magnetic resonance imaging techniques and present imaging strategies utilized at our institution. The advantages and challenges of these imaging modalities for evaluation of adrenal pathologies are discussed.

PMID: 23863528

http://dx.doi.org/10.1097/RCT.0b013e31828b690d

5. S D Med. 2013 Jul;66(7):267, 269-70. **IF: 0.15**

Pheochromocytoma - review and biochemical workup.

Miller RA, Ohrt DW.

Source

Sanford School of Medicine, University of South Dakota, USA.

Abstract

A commonly received question in the clinical laboratory is as follows: what is the best test for pheochromocytoma? A widely variable presentation and potentially catastrophic consequence make this a feared neoplasm despite its infrequent encounter. Because various biochemical testing modalities are available, test selection is often confusing. This selection process can be made easier through a better understanding of catecholamine producing neoplasms. The aim of this article is to provide a review of catecholamine producing neoplasms and give recommendations on appropriate test selection.

PMID: 23957112

ADRENAL

RETROSPEKTİF

1. J Clin Endocrinol Metab. 2013 Sep 12. [Epub ahead of print] **IF: 7.02**

The Characterization of Pheochromocytoma and Its Impact on Overall Survival in Multiple Endocrine Neoplasia Type 2.

Thosani S, Ayala-Ramirez M, Palmer L, Hu MI, Rich T, Gagel RF, Cote G, Waguespack SG, Habra MA, Jimenez C.

Source

The Department of Endocrine Neoplasia and Hormonal Disorders (S.T., M.A.-R., M.I.H., R.F.G., G.C., S.G.W., M.A.H., C.J.), Division of Internal Medicine, University of Texas-MD Anderson Cancer Center; The Department of Biostatistics (L.P.), University of Texas-MD Anderson Cancer Center; and Clinical Cancer Genetics Program (T.R.), University of Texas-MD Anderson Cancer Center, Houston, Texas.

Abstract

Context:Pheochromocytoma (PHEO) occurs in 50% of patients with multiple endocrine neoplasia type 2 (MEN2). It is unknown if association with PHEO is associated with more aggressive medullary thyroid cancer (MTC).Objective:To present our experience with MEN2 PHEO and evaluate whether PHEO impacts MTC overall survival in patients with RET codon 634 mutations.Design:We performed a retrospective chart review of MEN2 patients at MD Anderson Cancer Center from 1960 through 2012.Patients:The study group comprised of 85 patients (group 1) with MEN2 associated PHEO. Of these, 59 patients (subgroup 1) with RET codon 634 mutations were compared to 48 patients (group 2) with RET codon 634 mutations, but without MEN 2-associated PHEO.Main Outcome Measures:Of 85 patients with MEN2 and PHEO, 70 had MEN2A and 15 had MEN2B. Median age at PHEO diagnosis was 32 years. The initial manifestation of MEN2 was MTC in 60% of patients, synchronous MTC and PHEO in 34%, and PHEO in 6% of patients. 72% of patients had bilateral PHEO, and most tumors were synchronous (82%). Subgroup analysis of MEN2 patients with and without PHEO, who were carriers of RET codon 634, the most common mutation with PHEO, showed no significant differences in the stage of MTC at initial diagnosis. The median follow-up time for patients with PHEO was 249 months and without PHEO was 67 months (p<.01). Survival analyses among RET 634 carriers didn't show shorter survival for patients with PHEO. The median survival time for patients with PHEO was 499 months and without PHEO was 444 months (p<.05).Conclusions:PHEO in MEN2 patients are usually bilateral and unlikely to be metastatic. Subgroup analysis of patients RET 634 mutations with and without PHEO, showed that PHEO was not associated with a more advanced stage of MTC at diagnosis or a shorter survival.

PMID: 24030942

2. Am J Surg Pathol. 2013 Aug;37(8):1140-9. doi: 10.1097/PAS.0b013e318285f6a2. **IF: 5.53**

Adrenal cortical adenoma: the fourth component of the Carney triad and an association with subclinical Cushing syndrome.

Carney JA, Stratakis CA, Young WF Jr.

Source

Department of Laboratory Medicine and Pathology, Division of Endocrinology, Diabetes, Metabolism and Nutrition, Mayo Clinic, 200 First St SW, Rochester, MN 55905, USA. carney.aidan@mayo.edu

Abstract

The Carney triad is the combination of gastric stromal sarcoma, pulmonary chondroma, and extra-adrenal paraganglioma. Herein, we describe the clinical, imaging, pathologic, and follow-up findings from 14 patients for a fourth component of the syndrome, adrenal adenoma. The adrenal neoplasm was asymptomatic and usually a late finding. Results of adrenocortical function tests were normal. Computed tomography revealed low-density adrenal masses that were consistent with adenomas. Bilateral lesions were present in 4 patients. In 13 of the 14 patients who underwent surgery, resected adrenal glands and biopsy specimens featured 1 or more circumscribed, yellow tumors, up to 3.5 cm in diameter, composed of well-differentiated polygonal cells with clear vacuolated cytoplasm and a smaller component of eosinophilic cells. The extratumoral cortex had combinations of normal histologic features, discrete clear cell micronodules, zonal clear cell hypertrophy, and marked atrophy. The lesion in the 14th patient was different, grossly and microscopically resembling the usual sporadic cortisol-secreting adenoma. After the tumor was excised, the patient required glucocorticoid support. None of the tumors recurred or metastasized. Fourteen additional patients had unilateral or bilateral adrenal tumors consistent with adenomas detected by imaging studies.

PMID: 23681078

http://dx.doi.org/10.1097/PAS.0b013e318285f6a2

3. Ann Surg Oncol. 2013 Sep 18. [Epub ahead of print] **IF: 4.33**

Long-Term Survival After Adrenalectomy for Stage I/II Adrenocortical Carcinoma (ACC): A Retrospective Comparative Cohort Study of Laparoscopic Versus Open Approach.

Donatini G, Caiazzo R, Do Cao C, Aubert S, Zerrweck C, El-Kathib Z, Gauthier T, Leteurtre E, Wemeau JL, Vantyghem MC, Carnaille B, Pattou F.

Source

Department of General and Endocrine Surgery, Lille Regional University Hospital, Lille, France.

Abstract

BACKGROUND:

Laparoscopic adrenalectomy (LA) is the standard treatment for benign adrenal lesions. The laparoscopic approach has also been increasingly accepted for adrenal metastases but remains controversial for adrenocortical carcinoma (ACC). In a retrospective cohort study we compared the outcome of LA versus open adrenalectomy (OA) in the treatment of stage I and II ACC.

METHODS:

This was a double cohort study comparing the outcome of patients with stage I/II ACC and a tumor size <10 cm submitted to LA or OA at Lille University Hospital referral center from 1985 to 2011. Main outcomes analyzed were: postoperative morbidity, overall survival, and disease-free survival.

RESULTS:
Among 111 consecutive patients operated on for ACC, 34 met the inclusion criteria. LA and OA were performed in 13 and 21 patients, respectively. Baseline patient characteristics (gender, age, tumor size, hormonal secretion) were similar between groups. There was no difference in postoperative morbidity, but patients in LA group were discharged earlier ($p < 0.02$). After a similar follow-up (66 ± 52 for LA and 51 ± 43 months for OA), Kaplan-Meier estimates of disease-specific survival and disease-free survival were identical in both groups ($p = 0.65$, $p = 0.96$, respectively).

CONCLUSIONS:
LA was associated with a shorter length of stay and did not compromise the long-term oncological outcome of patients operated on for stage I/II ACC ≤ 10 cm ACC. Our results suggest that LA can be safely proposed to patients with potentially malignant adrenal lesions smaller than 10 cm and without evidence of extra-adrenal extension.

PMID: 24046101

4. Ann Surg Oncol. 2013 Jul 25. [Epub ahead of print] **IF: 4.33**

Discriminating Pheochromocytomas from Other Adrenal Lesions: The Dilemma of Elevated Catecholamines.

Carr JC, Spanheimer PM, Rajput M, Dahdaleh FS, Lal G, Weigel RJ, Sugg SL, Liao J, Howe JR.

Source

Department of Surgery, University of Iowa Carver College of Medicine, Iowa City, IA, USA.

Abstract

BACKGROUND:
Screening tests for pheochromocytoma involve measuring levels of catecholamines in the urine or plasma, which have significant false-positive rates. We reviewed patients with adrenal masses and elevated levels of catecholamines to determine the value of different preoperative tests in diagnosing pheochromocytomas.

METHODS:
A retrospective chart review identified patients who underwent adrenalectomy between 1997 and 2011 with elevation of urine or serum catecholamines. A database of clinicopathologic factors was created including preoperative urine and plasma metanephrines, normetanephrines, vanillylmandelic acid, and fractionated catecholamines, and tumor dimensions on imaging and pathology.

RESULTS:
A total of 70 patients underwent adrenalectomy because of presence of an adrenal mass and elevation of catecholamines or normetanephrines or metanephrines. Of these, 46 had pathologically confirmed pheochromocytomas. To improve our ability to discriminate between pheochromocytoma and other pathology, we examined different combinations of clinicopathologic factors and catecholamine levels and found the best test was a scoring system. Points are awarded for a hierarchy of elevated normetanephrine, norepinephrine, metanephrines, with additional points received for age <50 and size on imaging >3.3 cm. A score of 2 is suggestive of pheochromocytoma, with a positive predictive value of 86-87 %, while a score of 4 is diagnostic with positive predictive value of 100 %.

CONCLUSION:
We found that urine/serum normetanephrine levels were the most valuable screening tool; however, a score examining the size ofadrenal mass on preoperative CT, age, and either plasma or urine

norepinephrine, metanephrine, and normetanephrine values leads to a higher positive predictive value, making this scoring system superior to individual lab tests.

PMID: 23884753

5. Ann Surg Oncol. 2013 Jul 18. [Epub ahead of print] **IF: 4.33**

Robotic Versus Laparoscopic Adrenalectomy for Pheochromocytoma.

Aliyev S, Karabulut K, Agcaoglu O, Wolf K, Mitchell J, Siperstein A, Berber E.

Source

Department of Endocrine Surgery, Cleveland Clinic, Cleveland, OH, USA.

Abstract

BACKGROUND:
Although initial reports demonstrated the safety and feasibility of robotic adrenalectomy (RA), there are scant data on the use of this approach for pheochromocytoma. The aim of this study is to compare perioperative outcomes and efficacy of RA versus laparoscopic adrenalectomy (LA) for pheochromocytoma.

METHODS:
Within 3 years, 25 patients underwent 26 RA procedures for pheochromocytoma. These patients were compared with 40 patients who underwent 42 LA procedures before the start of the robotic program. Data were retrospectively reviewed from a prospectively maintained, IRB-approvedadrenal database.

RESULTS:
Demographic and clinical parameters at presentation were similar between the groups, except for a larger tumor size in the robotic group. In both groups, skin-to-skin operative time, estimated blood loss less, and intraoperative hemodynamic parameters were similar. The conversion to open rate was 3.9 % in the robotic and 7.5 % in the laparoscopic group (p = .532). There was no morbidity or mortality in the robotic group; morbidity was 10 % (p = .041) and mortality 2.5 % in the laparoscopic group. The pain score on postoperative day 1 was lower, and the length of hospital stay shorter in the robotic group (1.2 ± .1 vs. 1.7 ± .1 days, p = .036).

CONCLUSIONS:
To our knowledge, this is the first study comparing robotic versus laparoscopic resection of pheochromocytoma. Our results show that the robotic approach is similar to the laparoscopic regarding safety and efficacy. The lower morbidity, less immediate postoperative pain, and shorter hospital stay observed in the robotic approach warrant further investigation in future larger studies.

PMID: 23864309

6. Eur J Endocrinol. 2013 Jun 7;169(1):83-9. doi: 10.1530/EJE-13-0142. Print 2013 Jul. **IF: 3.64**

Surgery for adrenocortical carcinoma in The Netherlands: analysis of the national cancer registry data.

Kerkhofs TM, Verhoeven RH, Bonjer HJ, van Dijkum EJ, Vriens MR, De Vries J, Van Eijck CH, Bonsing BA, Van de Poll-Franse LV, Haak HR; Dutch Adrenal Network.

Source

Department of Internal Medicine, Máxima Medical Center, Ds. Theodor Fliednerstraat 1, 5631 BM Eindhoven, Veldhoven, The Netherlands. t.kerkhofs@mmc.nl

Abstract

OBJECTIVE:
Adrenocortical carcinoma (ACC) is a rare disease with an estimated incidence of one to two cases per 1 million inhabitants. The Dutch Adrenal Network (DAN) was initiated with the aim to improve patient care and to stimulate scientific research on ACC. Currently, not all patients with ACC are treated in specialized DAN hospitals. The objective of the current investigation was to determine whether there are differences in survival between patients operated on in DAN hospitals and those operated on in non-DAN hospitals.

DESIGN:
The study was set up as a retrospective and population-based survival analysis.

METHODS:
Data on all adult ACC patients diagnosed between 1999 and 2009 were obtained from The Netherlands Cancer Registry (NCR). Overall survival was calculated and a comparison was made between DAN and non-DAN hospitals.

RESULTS:
The NCR contained data of 189 patients. The median survival of patients with European Network for the Study of Adrenal Tumors stages I-III disease was significantly longer for patients operated on in a DAN hospital (n=46) than for those operated on in a non-DAN hospital (n=37, 5-year survival 63 vs 42%). Survival remained significantly different after correction for sex, age, year of diagnosis, and stage of disease in the multivariate analysis (hazard ratio 1.96 (95% CI 1.01-3.81), P=0.047).

CONCLUSION:
The results associate surgery in a DAN center with a survival benefit for patients with local or locally advanced ACC. We hypothesize that a multidisciplinary approach for these patients explains the observed survival benefit. These findings should be carefully considered in view of the aim for further centralization of ACC treatment.

PMID: 23641018

http://dx.doi.org/10.1530/EJE-13-0142

7. Eur J Endocrinol. 2013 Jun 1;169(1):51-8. doi: 10.1530/EJE-13-0093. Print 2013 Jul. **IF: 3.64**

Mutational analyses of epidermal growth factor receptor and downstream pathways in adrenocortical carcinoma.

Hermsen IG, Haak HR, de Krijger RR, Kerkhofs TM, Feelders RA, de Herder WW, Wilmink H, Smit JW, Gelderblom H, de Miranda NF, van Eijk R, van Wezel T,Morreau H.

Source

Department of Internal Medicine, Máxima Medical Centre, PO Box 90052, 5600 PD Eindhoven, The Netherlands. ilsehermsen@gmail.com

Abstract

BACKGROUND:
Adrenocortical carcinoma (ACC) is a rare disease with a poor prognosis and limited therapeutic options. Mitotane is considered the standard first-line therapy with only 30% of the patients showing objective tumour response. Defining predictive factors for response is therefore of clinical importance. The epidermal growth factor receptor (EGFR) has been implicated in the development of one-third of all malignancies. EGFR pathway members in ACC have been investigated, however, without available clinical data and relation to survival.

METHODS:
In this study, mutation status of EGFR and downstream signalling pathways was evaluated in 47 ACC patients on mitotane using direct sequencing, a TaqMan allele-specific assay and immunohistochemistry. Archival formalin-fixed paraffin-embedded tumour tissue was used for all analyses. Patient data were obtained anonymously, after coupling with the collected tumour tissue.

RESULTS:
One BRAF, two EGFR TK domain (c.2590> A, p.864A>T) and 11 TP53, but no PIK3CA or KRAS, mutations were found. No relationship was found between mutation status, immunostaining and mitotane response or survival.

CONCLUSION:
In conclusion, our data suggest that the role of EGFR tyrosine kinase inhibitors in ACC is limited. Treatment with EGFR monoclonal antibodies on the other hand might be beneficial for a larger group of patients. The possible efficacy of this therapy in ACC should be evaluated in future trials.

PMID: 23585556

http://dx.doi.org/10.1530/EJE-13-0093

8. AJR Am J Roentgenol. 2013 Jul;201(1):122-7. doi: 10.2214/AJR.12.9620. **IF: 3.25**

Can established CT attenuation and washout criteria for adrenal adenoma accurately exclude pheochromocytoma?

Patel J, Davenport MS, Cohan RH, Caoili EM.

Source

Department of Radiology, University of Michigan Health System, 1500 E Medical Center Dr, B2 A209P, Ann Arbor, MI 48109, USA.

Abstract

OBJECTIVE:

The purpose of this article is to determine the proportion of pheochromocytomas that mimic adrenal adenoma using established CT washout and attenuation criteria.

MATERIALS AND METHODS:
The CT characteristics of pheochromocytomas confirmed by histologic analysis (n = 46) and (131)I-metaiodobenzylguanidine (n = 1) were compared with those of 98 adrenal adenomas (negative plasma and urinary metanephrines or catecholamines, and one or more of the following characteristics: unenhanced attenuation ≤ 10 HU, absolute washout ≥ 60%, and relative washout ≥ 40%). CT numbers were measured in all available phases (unenhanced [n = 37], 1-minute contrast enhanced [n = 46], and delayed contrast enhanced [n = 43]) using a region of interest that encompassed the majority of the mass. Absolute washout, relative washout, and degree of enhancement (1-minute minus unenhanced) were calculated. Mass size and heterogeneity were recorded and compared using the Student t test and a chi-square test, respectively.

RESULTS:
Twenty-four of 47 (51%) pheochromocytomas were imaged with a triphasic examination using a 15-minute delay. Eight of 24 (33%) met relative (6/24 [25%]) or absolute (7/24 [29%]) washout criteria for the diagnosis of a lipid-poor adenoma. Four of these (50% [4/8]) were homogeneous on all three phases. None of the pheochromocytomas had an unenhanced attenuation of 10 HU or less. Pheochromocytomas were significantly larger than adrenal adenomas (mean diameter, 3.9 cm [range, 0.6-14 cm] vs 2.0 cm [range, 0.8-3.9 cm]; $p < 0.0001$) and were significantly less likely to be homogeneous (15/47 [32%] vs 95/98 [97%]; $p < 0.0001$), but there was overlap.

CONCLUSION:
A substantial minority of pheochromocytomas have absolute or relative washout characteristics that overlap with those of lipid-poor adenomas.

PMID: 23789665

http://dx.doi.org/10.2214/AJR.12.9620

9. J Endourol. 2013 Sep 4. [Epub ahead of print] **IF: 2.36**

Retroperitoneal Laparoendoscopic single-site adrenalectomy for pheochromocytoma: our single centre experiences.

Yuan X, Wang D, Zhang X, Cao X, Bai T.

Source

Shanxi Medical University, Taiyuan, Shanxi , China ; yuanxiaobin1984@126.com.

Abstract

Objective: To evaluate the feasibility and safety of retroperitoneal laparoendoscopic single-site adrenalectomy for pheochromocytoma (LESS-PHEO) and summarize our initial experience. Patients and Methods: Between June 2009 and June 2013, 21 patients with adrenal pheochromocytoma underwent adrenalectomy via LESS-PHEO in our department. Fifty three patients with pheochromocytoma underwent conventional retrolaparoscopic adrenalectomy (RLAP-PHEO) between March 2001 and June 2013, of whom 42 were selected as a control group for a retrospective serial case-control analysis (1:2 matched-pair cohort). In the operation, the retroperitoneal space was created and dilated by blunt finger dissection and the pneumoperitoneal pressure was maintained below 10 mm Hg. As the first step, ligation of the adrenal central vein was performed. Intraoperative hemodynamic parameters, operating time, estimated blood loss, transfusion requirement, incidence of perioperative complications, visual analog pain scale (VAPS) score, time to resumption of oral intake and ambulation, and postoperative hospitalization were compared between the groups. Results: All the operations were technically successful, without

reoperations or conversion to open procedures. The 24-hour postoperative VAPS score was lower in the LESS-PHEO group than in the control group (5 versus 7; P < 0.001). Despite a longer median operative time (167.4 min versus 125.5 min; P < 0.001), the patients in the LESS-PHEO group resumed oral intake sooner (1 day versus 2 days; P < 0.001), ambulated sooner (1 day versus 2 days; P < 0.001), and were discharged earlier (4 days versus 7 days; P < 0.001). No perioperative complications occurred in either group. No statistically significant differences in hemodynamic parameters or estimated blood loss were found between the groups. Conclusion: Although more training and practice are needed to shorten its operative time, LESS-PHEO, as performed by an experienced laparoscopic urologist, is a feasible and safe procedure associated with less postoperative pain and faster recovery.

PMID: 24004249

10. J Endourol. 2013 Sep 2. [Epub ahead of print] **IF: 2.36**

Perioperative, Functional, and Oncologic Outcomes of Partial Adrenalectomy for Multiple Ipsilateral Pheochromocytomas.

Gupta GN, Benson JS, Ross M, Menon VS, Lin KY, Pinto P, Linehan WM, Bratslavsky G.

Source

Loyola University Medical Center, Urology, Maywood, Illinois, United States ; gogupta@lumc.edu.

Abstract

Objective Managing patients with multiple adrenal masses is technically challenging. We present our experience with minimally invasive partial adrenalectomy performed for synchronous multiple ipsilateral pheochromocytomas in a single setting. Materials and Methods We reviewed records of patients undergoing partial adrenalectomy for pheochromocytoma at the National Cancer Institute between 1994 and 2010. Patients were included if multiple tumors were excised from the ipsilateral adrenal gland in the same operative setting. Perioperative, functional, and oncologic outcomes of partial adrenalectomy for multiple pheochromocytomas is shown. Results Of 121 partial adrenalectomies performed, 10 procedures performed in eight patients for synchronous multiple ipsilateral pheochromocytomas were identified. All eight patients were symptomatic at presentation. The mean patient age was 30.6 yrs, median follow up was 12 months. The average surgical time was 228 minutes, average blood loss of 125 mL, average number of tumors removed was 2.6 per adrenal. In total 26 tumors were removed, 24 were pathologically confirmed pheochromocytoma while two were adrenal-cortical hyperplasia. After surgery all patients had resolution of their symptoms, one patient required steroid replacement post operatively. On post operative imaging, one patient had evidence of ipsilateral adrenal nodule at the prior resection site two months post operatively, which was consistent with incomplete resection. Conclusions Minimally invasive surgical resection of synchronous multiple pheochromocytomas is feasible with acceptable perioperative, functional, and oncologic outcomes.

PMID: 23998199

11. Clin Radiol. 2013 Jul;68(7):696-703. doi: 10.1016/j.crad.2013.01.016. Epub 2013 Mar 5. **IF: 2.15**

Distinguishing adrenal adenomas from non-adenomas on dynamic enhanced CT: a comparison of 5 and 10 min delays after intravenous contrast medium injection.

Kumagae Y, Fukukura Y, Takumi K, Shindo T, Tateyama A, Kamiyama T, Kamimura K, Nakajo M.

Source

Department of Radiology, Kagoshima University Graduate School of Medical and Dental Sciences, Kagoshima City, Japan. Electronic address: 160122@m3.kufm.kagoshima-u.ac.jp.

Abstract

AIM:

To evaluate the usefulness of several parameters of 5 min compared to 10 min delayed contrast-enhanced CT in distinguishing adenomas from non-adenomas.

MATERIALS AND METHODS:

The study population consisted of 94 patients (52 men and 42 women; mean age 62 years) with 103 adrenal lesions (75 adenomas and 28 non-adenomas). In each patient, unenhanced CT was followed by early, 5 and 10 min enhanced CT. Diagnostic parameters included delayed enhanced attenuation at 5 and 10 min, washout attenuation (WO) at 5 and 10 min, absolute percentage washout (APW) at 5 and 10 min, and relative percentage washout (RPW) at 5 and 10 min. The accuracy of each parameter for diagnosing adenomas from non-adenomas was calculated using receiver operating characteristic (ROC) analysis.

RESULTS:

Upon comparison between 5 and 10 min delayed contrast-enhanced CT for differentiating total adenomas or lipid-poor adenomas from non-adenomas, there was no significant difference in the area under the binomial ROC curve (Az) values of delayed enhanced attenuation (total adenomas versus non-adenomas, p = 0.164; lipid-poor adenomas versus non-adenomas, p = 0.178), WO (total adenomas versus non-adenomas, p = 0.216; lipid-poor adenomas versus non-adenomas, p = 0.230), APW (total adenomas versus non-adenomas, p = 0.401; lipid-poor adenomas versus non-adenomas, p = 0.870), or RPW (total adenomas versus non-adenomas, p = 0.160; lipid-poor adenomas versus non-adenomas, p = 0.780).

CONCLUSION:

Five minute contrast-enhanced CT was as useful as 10 min contrast-enhanced CT for differentiation of adrenal adenomas from non-adenomas.

PMID: 23482305

http://dx.doi.org/10.1016/j.crad.2013.01.016

12. Urol Int. 2013 Sep 17. [Epub ahead of print] **IF: 1.26**

Laparoendoscopic Single-Site Retroperitoneoscopic Adrenalectomy versus Conventional Retroperitoneoscopic Adrenalectomy: Initial Experience by the Same Laparoscopic Surgeon.

Wen SC, Yeh HC, Wu WJ, Chou YH, Huang CH, Li CC.

Source

Department of Urology, Kaohsiung Medical University Hospital, Kaohsiung Medical University, Kaohsiung, Taiwan.

Abstract

Purpose: The purpose of this study was to demonstrate our initial experience with and the feasibility of laparoendoscopic single-site retroperitoneoscopic adrenalectomy (LESS-RA). Patients and Methods: 54 patients undergoing conventional retroperitoneoscopic adrenalectomy were compared with 27 patients undergoing LESS-RA. The adrenal tumors were considered to be benign preoperatively and <6 cm. Age, sex, laterality, body mass index, surgical indications, time to resuming oral intake, tumor size, operation time, estimated blood loss, intravenous or intramuscular analgesics (pethidine) and postoperative hospital stay were compared between the two groups. Analysis of covariance was applied to analyze postoperative hospital stay and time to resuming oral intake. Results: The length of postoperative hospital stay was significantly higher in the conventional retroperitoneoscopic adrenalectomy group in the adjusted and unadjusted model. The time to resuming oral intake was significant shorter in the LESS-RA group, but was not significant after adjusting opioid analgesics dosage. No conversions to an open or conventional retroperitoneoscopic approach were necessary. There were neither complications nor blood transfusions in both groups. Conclusions: LESS-RA for benign adrenal tumors is a feasible surgical procedure when tumors are <6 cm. Further clinical research is warranted to define the role of LESS inadrenal surgery and to prove its efficacy over conventional laparoscopic surgery.

PMID: 24051557

13. Minerva Chir. 2013 Aug;68(4):377-84. **IF: 0.49**

Laparoscopic Adrenalectomy for Cushing's Syndrome: a 12-year experience.

Romiti C, Baldarelli M, Cappelletti Trombettoni M, Budassi A, Ghiselli R, Guerrieri M.

Source

Clinic of General Surgery and Surgery Methodology, University of Marche-Ospedali Riuniti Ancona, Italy - c.romiti@email.it.

Abstract

Aim: The outcome after laparoscopic adrenalectomy in 51 patients with pre-Cushing's and Cushing's syndrome was evaluated at six months and one year of follow-up. Methods: In this retrospective analysis of 51 patients (35 females and 16 males) selected for laparoscopic adrenalectomy (28 left and 23 right adrenal glands), clinical presentation, endocrine and blood chemistry and hemodynamics, and pre- and postsurgical management were analyzed. Evaluations included, blood pressure, body-mass index (BMI), lipid profile, blood glucose (fasting insulin and oral glucose tolerance test [OGTT]), liver function and hormonal profile (17-hydroxyprogesterone, dehydroepiandrosterone sulfate and cortisol), and perioperative

complications. Results: Follow-up assessment showed a significant reduction in systolic (12.34 mm Hg) and diastolic blood pressure (11.09 mm Hg), a statistically significant decrease in total (11.67 mg/dL) and a statistically significant increase in high-density lipoprotein (HDL) cholesterol (6.46 mg/dL), and a statistically significant decrease in blood glucose at 60 minutes and an increase in insulin at 120 minutes. No statistically significant changes in the hormone profile were observed. There was a statistically significant reduction in cortisol concentration in response to the dexamethasone test. Mortality was zero and the surgical complications rate was low. Conclusion: Laparoscopic adrenalectomy has become the gold standard in the treatment of adrenal disease. It is a safe technique, with clinically effective results and an excellent perioperative course.

PMID: 24019045

ADRENAL

VAKA SUNUMU

1. Urology. 2013 Jul;82(1):e3-4. doi: 10.1016/j.urology.2013.04.005. **IF: 2.50**

Giant adrenal cavernous hemangioma: a rare abdominal mass.

Galea N, Noce V, Ciolina F, Liberali S, Francone M.

Source

Department of Radiological, Oncological, and Pathological Sciences, Sapienza University of Rome, Rome, Italy. nicola.galea@gmail.com

Abstract

An 84-year-old woman with left flank pain presented to our institution. Contrast-enhanced computed tomography demonstrated a large spherical adrenal mass (diameter 13 cm) showing features of a benign lesion. Histologic examination revealed a giant adrenal hemangioma. Surgical resection was curative, with no recurrence at 2 years of follow-up. Surgery is usually recommended for symptomatic patients or in the case of a large lesion (>6 cm) because of the possibility of the coexistence of a malignancy or potential complications (ie, hemorrhage, rupture).

PMID: 23806410

http://dx.doi.org/10.1016/j.urology.2013.04.005

2. J Pediatr Hematol Oncol. 2013 Jul;35(5):e183-6. doi: 10.1097/MPH.0b013e318286d112. **IF: 1.13**

A rare adolescent case of female pseudohermaphroditism with adrenocortical carcinoma and synchronous teratoma.

He XF, Peng XC, Qiu M.

Source

Cancer Center, Division of Abdominal Cancer, West China Hospital of Sichuan University, Chengdu, China.

Abstract

A patient with female pseudohermaphroditism is chromosomally and gonadally a female individual but has male or ambiguous external genitalia. In this paper, we report a 12-year-old Chinese girl who was diagnosed with female pseudohermaphroditism characterized by clitoridauxe, hirsutism, acne, hypertension, and karyotype 46 XX. Computed tomography scan revealed a huge left abdominal mass with distant metastases to bilateral lungs and a concomitant pelvic teratoma. Because the left abdominal mass was unresectable, the patient underwent a biopsy of the abdominal mass and a radical resection of the pelvic teratoma. Histopathology confirmed that the left abdominal mass was an adrenocortical carcinoma (ACC) and the pelvic teratoma was a mature cystic teratoma originating from the left ovary. After surgery, the patient received a transcatheter arterial chemoembolization of ACC, combined with 2 g mitotane daily

for systemic treatment. It was a pity that she died 8 months later after diagnosis. So far, as we know, the simultaneous occurrence of pseudohermaphroditism, ACC, and ovarian teratomas has not been reported in the literatures before.

PMID: 23528907

http://dx.doi.org/10.1097/MPH.0b013e318286d112

NET

DERLEME

1. Lancet. 2013 Sep 14;382(9896):973-83. doi: 10.1016/S0140-6736(13)60106-3. Epub 2013 Apr 24. **IF: 21.78**

Gastrointestinal stromal tumour.

Joensuu H, Hohenberger P, Corless CL.

Source

Department of Oncology, Helsinki University Central Hospital, Helsinki, Finland. heikki.joensuu@hus.fi

Abstract

Gastrointestinal stromal tumours (GISTs) are mesenchymal neoplasms that arise in the gastrointestinal tract, usually in the stomach or the small intestine and rarely elsewhere in the abdomen. They can occur at any age, the median age being 60-65 years, and typically cause bleeding, anaemia, and pain. GISTs have variable malignant potential, ranging from small lesions with a benign behaviour to fatal sarcomas. Most tumours stain positively for the mast/stem cell growth factor receptor KIT and anoctamin 1 and harbour a kinase-activating mutation in either KIT or PDGFRA. Tumours without such mutations could have alterations in genes of the succinate dehydrogenase complex or in BRAF, or rarely RAS family genes. About 60% of patients are cured by surgery. Adjuvant treatment with imatinib is recommended for patients with a substantial risk of recurrence, if the tumour has an imatinib-sensitive mutation. Tyrosine kinase inhibitors substantially improve survival in advanced disease, but secondary drug resistance is common.

PMID: 23623056

http://dx.doi.org/10.1016/S0140-6736(13)60106-3

2. J Natl Cancer Inst. 2013 Jul 17;105(14):1005-17. doi: 10.1093/jnci/djt135. Epub 2013 Jul 9. **IF: 11.75**

Current understanding of the molecular biology of pancreatic neuroendocrine tumors.

Zhang J, Francois R, Iyer R, Seshadri M, Zajac-Kaye M, Hochwald SN.

Source

Department of Surgical Oncology, Roswell Park Cancer Institute, Buffalo, NY 14263, USA.

Abstract

Pancreatic neuroendocrine tumors (PanNETs) are complicated and often deadly neoplasms. A recent increased understanding of their molecular biology has contributed to expanded treatment options. DNA sequencing of samples derived from patients with PanNETs and rare genetic syndromes such as multiple endocrine neoplasia type 1 (MEN1) and Von Hippel-Lindau (VHL) syndrome reveals the involvement of MEN1, DAXX/ATRX, and the mammalian target of rapamycin (mTOR) pathways in PanNET tumorigenesis.

Gene knock-out/knock-in studies indicate that inactivation of factors including MEN1 and abnormal PI3K/mTOR signaling uncouples endocrine cell cycle progression from the control of environmental cues such as glucose, leading to islet cell overgrowth. In addition, accumulating evidence suggests that further impairment of endothelial-endocrine cell interactions contributes to tumor invasion and metastasis. Recent phase III clinical trials have shown that therapeutic interventions, such as sunitinib and everolimus, targeting those signal transduction pathways improve disease-free survival rates. Yet, cure in the setting of advanced disease remains elusive. Further advances in our understanding of the molecular mechanisms of PanNETs and improved preclinical models will assist in developing personalized therapy utilizing novel drugs to provide prolonged control or even cure the disease.

PMID: 23840053

http://dx.doi.org/10.1093/jnci/djt135

3. Cancer Lett. 2013 Jul 10;335(1):1-8. doi: 10.1016/j.canlet.2013.02.016. Epub 2013 Feb 16. **IF: 4.47**

PI3K/Akt/mTOR pathway inhibitors in the therapy of pancreatic neuroendocrine tumors.

Wolin EM.

Source

Division of Hematology/Oncology, Samuel Oschin Cancer Center, Cedars-Sinai Medical Center, 8700 Beverly Blvd., Los Angeles, CA 90048, USA. edward.wolin@cshs.org

Abstract

The phosphatidylinositol 3-kinase (PI3K)/Akt/mammalian target of rapamycin (mTOR) pathway is implicated in the pathogenesis of pancreatic neuroendocrine tumors (pNETs). Activation of this pathway is driven by aberrant tyrosine kinase receptor activities. Mutations in the PI3K/Akt/mTOR pathway occur in 15% of pNETs, and expression of genes of the PI3K/Akt/mTOR pathway is altered in the majority of pNETs. The mTOR inhibitor everolimus has been approved by the FDA for the treatment of pNET, but its efficacy may be limited by its inability to prevent mTORC2-mediated activation of Akt. Specific inhibitors of PI3K, Akt, or other pathway nodes, and their concomitant use with mTOR inhibitors, or agents with dual activity, may be more effective. Preclinical studies demonstrate that inhibitors of the PI3K pathway have antitumor activity in pNET cells, either through direct inhibition of individual pathway nodes or indirect inhibition of molecular chaperones such as heat-shock protein 90. Clinical studies are underway evaluating individual node and dual node inhibitors.

PMID: 23419523

http://dx.doi.org/10.1016/j.canlet.2013.02.016

4. Mol Cell Endocrinol. 2013 Jul 30. pii: S0303-7207(13)00309-2. doi: 10.1016/j.mce.2013.07.015. [Epub ahead of print] **IF: 4.17**

Gastroenteropancreatic endocrine tumors.

Meeker A, Heaphy C.

Source

The Johns Hopkins University School of Medicine, Department of Pathology, Bond Street Research Annex Bldg., Room B300, 411 North Caroline Street, Baltimore, MD 21231, United States. Electronic address: ameeker1@jhmi.edu.

Abstract

Gastroenteropancreatic endocrine tumors (GEP-NETs) are relatively uncommon; comprising approximately 0.5% of all human cancers. Although they often exhibit relatively indolent clinical courses, GEP-NETs have the potential for lethal progression. Due to their scarcity and various technical challenges, GEP-NETs have been understudied. As a consequence, we have few diagnostic, prognostic and predictive biomarkers for these tumors. Early detection and surgical removal is currently the only reliable curative treatment for GEP-NET patients; many of whom, unfortunately, present with advanced disease. Here, we review the genetics and epigenetics of GEP-NETs. The last few years have witnessed unprecedented technological advances in these fields, and their application to GEP-NETS has already led to important new information on the molecular abnormalities underlying them. As outlined here, we expect that "omics" studies will provide us with new diagnostic and prognostic biomarkers, inform the development of improved pre-clinical models, and identify novel therapeutic targets for GEP-NET patients.

KEYWORDS:

ATRX, Carcinoid, DAXX, Epigenomics, Gastroenteropancreatic Neuroendocrine Tumor, Genomics

PMID: 23906538

http://dx.doi.org/10.1016/j.mce.2013.07.015

5. Expert Rev Gastroenterol Hepatol. 2013 Jul;7(5):477-90. doi: 10.1586/17474124.2013.811058. **IF: 2.44**

Advancements in pancreatic neuroendocrine tumors.

Sadaria MR, Hruban RH, Edil BH.

Source

Department of Surgery, University of Colorado Anschutz Medical Campus, Division of GI, Tumor and Endocrine Surgery, Academic Office One, 12631 East 17th Avenue, C311, Aurora, CO 80045, USA.

Abstract

Pancreatic neuroendocrine tumors (PanNETs) have increased in incidence in the USA over the last 20 years. Although PanNETs are often misconceived as being indolent tumors as they have a far more favorable prognosis over pancreatic adenocarcinoma, roughly 60-70% of patients have metastatic disease at the time of diagnosis due to presentation late in the disease process. While improvements in imaging modalities allow for early detection and better tumor localization, recent advancements in basic science, as well as surgical and medical management of PanNETs have further improved the prognosis. The mainstay

of therapy for localized PanNETs is surgical intervention, which has become safer and is slowly shifting towards a more minimally invasive approach. However, the prognosis still remains relatively bleak for patients with unresectable disease. Fortunately, novel molecular targeted therapies, such as everolimus and sunitinib, have recently come into the limelight and have shown significant promise for the treatment of locally advanced and metastatic disease.

PMID: 23899286
http://dx.doi.org/10.1586/17474124.2013.811058

6. Endocr Pract. 2013 Sep 6:1-30. [Epub ahead of print] **IF: 2.12**

Systemic Treatment of Gastroenteropancreatic Neuroendocrine Tumors (GEP-NETs): Current Approaches and Future Options.

Strosberg JR.

Source

H. Lee Moffitt Cancer Center and Research Institute, Tampa, Florida.

Abstract

Objective: To describe recent advances in treatment of gastroenteropancreatic neuroendocrine tumors (GEP-NETs).Methods: A review of the published English language literature on therapy of GEP-NETs with a focus on practice-changing clinical trials.Results: Somatostatin analog treatment remains a cornerstone of GEP-NET therapy, primarily for patients with hormonally functional tumors and midgut carcinoids. The biologic agents everolimus and sunitinib have similar tumor-stabilizing effects in pancreatic NETs and are both approved for treatment of progressive low-intermediate grade tumors. Their role in non-pancreatic NETs remains controversial. Cytotoxic chemotherapy has significant activity in pancreatic NETs but modern prospective data is lacking. Radiolabeled somatostatin analogs will likely become more widely available once phase III randomized studies are completed.Conclusions: New treatment options for GEP-NETs have become available, and highlight the necessity of developing predictive biomarkers which will allow for appropriate and individualized selection of therapy.

PMID: 24014009

NET

PROSPEKTİF

1. Cancer Chemother Pharmacol. 2013 Aug;72(2):387-95. doi: 10.1007/s00280-013-2202-1. Epub 2013 Jun 14. **IF: 2.97**

Safety, tolerability, pharmacokinetics, and pharmacodynamics of a long-acting release (LAR) formulation of pasireotide (SOM230) in patients with gastroenteropancreatic neuroendocrine tumors: results from a randomized, multicenter, open-label, phase I study.

Wolin EM, Hu K, Hughes G, Bouillaud E, Giannone V, Resendiz KH.

Source

Carcinoid/Neuroendocrine Tumor Program, Samuel Oschin Cancer Center, Cedars-Sinai Medical Center, 8700 Beverly Boulevard, Los Angeles, CA 90048, USA. edward.wolin@cshs.org

Abstract

PURPOSE:

Pasireotide (SOM230), a novel multireceptor ligand somatostatin analog (SSA), binds with high affinity to four of the five somatostatin receptor subtypes (sst1-3, 5). This study evaluated the safety, tolerability, pharmacokinetics, and pharmacodynamics profiles of pasireotide long-acting release (LAR) formulation in patients with advanced gastroenteropancreatic neuroendocrine tumor (GEP NET) refractory to other SSAs.

METHODS:

In this randomized, multicenter, open-label, phase II study, patients with biopsy-proven primary or metastatic GEP NET refractory to available SSAs were randomly assigned 1:1:1 to receive pasireotide LAR by deep intragluteal injection at a dose of 20, 40, or 60 mg once every 28 days for 3 months.

RESULTS:

Forty-two patients received pasireotide LAR. Adverse events were reported by 34 (81 %) patients, with the most frequently reported including diarrhea, fatigue, abdominal pain, and nausea. Mean fasting glucose levels were increased compared with baseline at all points throughout the study. After the third injection of pasireotide LAR, the median trough plasma concentrations on day 84 were 4.82, 12.0, and 19.7 ng/mL in the 20-, 40-, and 60-mg treatment groups, respectively. Drug accumulation was limited for each dose based on the increase in trough concentrations after the first to third injections (accumulation ratios were approximately 1 from all dose levels).

CONCLUSIONS:

This study demonstrated that a new, once-monthly, intramuscular LAR formulation of pasireotide was well tolerated in patients with advanced GEP NET. Steady state levels of plasma pasireotide were achieved after three injections.

PMID: 23765178

http://dx.doi.org/10.1007/s00280-013-2202-1

NET

RETROSPEKTİF

1. J Clin Oncol. 2013 Sep 16. [Epub ahead of print] **IF: 15.18**

Revised Staging Classification Improves Outcome Prediction for Small Intestinal Neuroendocrine Tumors.

Kim MK, Warner RR, Roayaie S, Harpaz N, Ward SC, Itzkowitz S, Wisnivesky JP.

Source

Mount Sinai School of Medicine, New York, NY.

Abstract

PURPOSE:
Small intestinal (SI) neuroendocrine tumors (NETs) have heterogeneous outcomes. The NET societies have recently proposed a TNM staging classification. In this study, we used population-based data to assess the validity of the staging system.

PATIENTS AND METHODS:
We identified patients with SI-NETS diagnosed between 1988 and 2009 from the Surveillance, Epidemiology, and End Results registry. We used Kaplan-Meier analysis to assess disease-specific survival according to TNM status. Cox models were constructed to evaluate differences in prognosis after controlling for potential confounders.

RESULTS:
We identified 6,792 patients with SI-NET. Although the current staging system was predictive of prognosis, there was overlap among some groups (stage I/IIA, P = .36; stage IIB/IIIB, P = .70). Additionally, stage IIIB patients had better survival than stage IIIA patients (P < .001). Adjusted analyses showed similar outcomes for T1 versus T2 disease (hazard ratio [HR], 1.02; 95% CI, 0.63 to 1.66). Patients with T3 (HR, 3.60; 95% CI, 2.28 to 5.69) and T4 (HR, 5.50; 95% CI, 3.42 to 8.86) tumors had significantly worse survival than patients with T1 disease. N1 involvement conferred worse survival in T1 (HR, 3.08; 95% CI, 1.75 to 5.44) and T2 disease (HR, 2.73; 95% CI, 1.84 to 4.07) but not in T3 (HR, 0.99; 95% CI, 0.76 to 1.30) or T4 (HR, 0.98; 95% CI, 0.71 to 1.35) disease. A revised classification showed no overlap in survival across groups.

CONCLUSION:
Progressively more advanced T status is associated with worse SI-NET prognosis. Regional lymph node involvement is a marker of worse survival only among patients with T1 or T2 status. These results suggest that revisions to the current staging classification may be helpful.

PMID: 24043726

2. Ann Oncol. 2013 Sep 19. [Epub ahead of print] **IF: 7.05**

Gastrointestinal carcinoid: epidemiological and survival evidence from a large population-based study (n = 25 531).

Mocellin S, Nitti D.

Source

Department of Surgery Oncology and Gastroenterology, School of Medicine, University of Padova, Padova, Italy.

Abstract

BACKGROUND:
Owing to its rarity, the published evidence on gastrointestinal (GI) carcinoid is often based on small series of patients or population-based studies regarding all neuroendocrine tumors. Here, we present a comprehensive epidemiological and survival analysis of the largest cohort of patients with GI carcinoid ever reported.

PATIENTS AND METHODS:
Patients with histological diagnosis of GI carcinoid (n = 25 531) were identified from the Surveillance Epidemiology End Results (SEER) database (including 18 USA cancer registries and spanning the 1973-2009 time frame). Demographic and disease data were used for

RESULTS:
The incidence of GI carcinoid is steadily increasing over the past three decades at a rate higher than any other cancer [annual percentage change (APC) = 4.4, 95% confidence interval (CI) 4.0-4.8]. These patients have a higher risk of further primary tumor (standardized incidence ratio, SIR = 1.15, 95% CI 1.10-1.21), but also a reduced risk of skin melanoma (SIR = 0.64, 95% CI 0.41-0.95). Despite the overall favorable prognosis (5-year disease-specific and relative survival rate: 91.3% and 87.4%, respectively), the mortality rate is increasing over time (APC = 3.5, 95% CI 3.0-4.0) and the 5-year survival rate of patients dying of GI carcinoid (28.5%), though better than that reported for GI cancers in general (8.4%), cannot be considered satisfactory. Finally, a nomogram is provided to predict patient survival on the basis of clinico-pathological factors independently associated with prognosis at multivariate analysis.

CONCLUSIONS:
These findings can be clinically useful for the management of patients with GI carcinoid and eagerly prompt the continuous effort to develop more effective therapeutic strategies against this slow-growing but chemoresistant tumor.

KEYWORDS:

SEER, carcinoid, epidemiology, gastrointestinal, population-based study, survival analysis

PMID: 24050954

3. Radiology. 2013 Aug;268(2):390-9. doi: 10.1148/radiol.13121628. Epub 2013 Mar 26. **IF: 6.40**

High sensitivity of diffusion-weighted MR imaging for the detection of liver metastases from neuroendocrine tumors: comparison with T2-weighted and dynamic gadolinium-enhanced MR imaging.

d'Assignies G, Fina P, Bruno O, Vullierme MP, Tubach F, Paradis V, Sauvanet A, Ruszniewski P, Vilgrain V.

Source

Department of Radiology, Assistance-Publique Hôpitaux de Paris, Hôpital Beaujon, 100 bd du Général Leclerc, 92110 Clichy, France.

Abstract

PURPOSE:
To compare the sensitivity and specificity of diffusion-weighted (DW) magnetic resonance (MR) imaging for identifying liver metastases from neuroendocrine tumor (NET) to those of T2-weighted fast spin-echo (FSE) and three-dimensional dynamic gadolinium-enhanced MR imaging, with surgical and histopathologic findings as the reference standard.

MATERIALS AND METHODS:
This retrospective study was approved by institutional review board, and informed consent was waived. Fifty-nine patients with NETs (41 patients with 162 liver metastases, and 18 control subjects with no liver metastases) underwent MR imaging that included DW, T2-weighted FSE, and dynamic gadolinium-enhanced MR sequences. Images were retrospectively reviewed by two abdominal radiologists, independently, for the detection and characterization of liver metastases. MR findings were compared with histopathologic and intraoperative ultrasonography findings for metastasis on a lesion-by-lesion basis to determine the sensitivity of each MR sequence alone and combined. Specificity was calculated by using the control population. Interreader agreement for each MR sequence and McNemar test were also calculated.

RESULTS:
There was excellent agreement between observers 1 and 2 for characterizing liver metastases at per-lesion analysis (κ coefficient: 0.86-1.00). DW MR was more sensitive (observer 1: sensitivity, 71.6% [116 of 162], 95% confidence interval [CI]: 64.2%, 78.0%; observer 2: sensitivity, 71.0% [115 of 162], 95% CI: 63.6%, 77.4%) than T2-weighted FSE (observer 1: sensitivity, 55.6% [90 of 162], 95% CI: 47.9%, 63.0%; observer 2: sensitivity, 55.6% [90 of 162], 95% CI: 47.9%, 63.0%) and dynamic gadolinium-enhanced MR (observer 1: sensitivity, 47.5% [77 of 162], 95% CI: 34.0%, 55.2%; observer 2: sensitivity, 48.1% [78 of 162], 95% CI: 40.6%, 55.8%) ($P < .001$ for both, McNemar test). The specificity of these sequences ranged from 88.9% to 100% (DW MR vs T2-weighted FSE MR: $P > .99$, DW MR vs dynamic gadolinium-enhanced MR: $P = .61$, and T2-weighted FSE MR vs dynamic gadolinium-enhanced MR: $P = .61$, McNemar test).

CONCLUSION:
DW MR imaging was more sensitive for the detection and characterization of liver metastases from NETs than T2-weighted FSE and dynamic gadolinium-enhanced MR imaging and should be systematically performed.

PMID: 23533288

http://dx.doi.org/10.1148/radiol.13121628

4. Cancer. 2013 Sep 10. doi: 10.1002/cncr.28341. [Epub ahead of print] **IF: 5.54**

Clinicopathologic characteristics of pancreatic neuroendocrine tumors and relation of somatostatin receptor type 2A to outcomes.

Okuwaki K, Kida M, Mikami T, Yamauchi H, Imaizumi H, Miyazawa S, Iwai T, Takezawa M, Saegusa M, Watanabe M, Koizumi W.

Source

Department of Gastroenterology, Kitasato University East Hospital, Kanagawa, Japan.

Abstract

BACKGROUND:
The impact of somatostatin receptor type 2 (SSTR-2a) expression levels on outcomes in patients with pancreatic neuroendocrine tumors (PNETs) has not been evaluated.

METHODS:
Correlations between clinicopathologic characteristics, including SSTR-2a expression and outcomes, were retrospectively studied in 79 patients with pancreatic neuroendocrine tumors (PNETs).

RESULTS:
The SSTR-2a score was 0 in 27% of patients, 1 in 24% of patients, 3 in 30% of patients, and 4 in 18% of patients. The overall survival rate was 87% at 1 year, 77% at 3 years, and 71% at 5 years. On univariate analysis, a pancreatic tumor that measured ≥20 mm in greatest dimension, stage IV disease, vascular invasion, neuroendocrine carcinoma (NEC), and an SSTR-2a score of 0 were associated significantly with poor outcomes. On multivariate analysis, NEC (P = .000; hazard ratio, 28.8; 95% confidence interval, 7.502-111.240) and an SSTR-2a score of 0 (P = .001; hazard ratio, 3.611; 95% confidence interval, 1.344-9.702) were related independently to poor outcomes.

CONCLUSIONS:
The current analysis of prognostic factors in patients with PNETs demonstrated that NEC and an SSTR-2a score of 0 both were significant independent predictors of poor outcomes. The results suggest that the assessment of SSTR-2a may facilitate the selection of treatment regimens and the prediction of outcomes. Because a considerable proportion of patients with NEC have SSTR-2a-positive tumors, further analyses of the usefulness of somatostatin analogues are warranted in patients who have SSTR-2a-positive NEC. Cancer 2013. © 2013 American Cancer Society.

KEYWORDS:

2010 World Health Organization classification, SSTR-2a, neuroendocrine tumor, pancreatic neuroendocrine tumors, somatostatin receptor type 2A

PMID: 24022344

http://dx.doi.org/10.1002/cncr.28341

5. Am J Surg Pathol. 2013 Jul;37(7):949-59. doi: 10.1097/PAS.0b013e31828ff59d. **IF: 5.53**

Neuroendocrine carcinoma of the stomach: morphologic and immunohistochemical characteristics and prognosis.

Ishida M, Sekine S, Fukagawa T, Ohashi M, Morita S, Taniguchi H, Katai H, Tsuda H, Kushima R.

Source

Gastric Surgery Division, National Cancer Center Hospital, Tokyo, Japan.

Abstract

Neuroendocrine carcinoma (NEC) of the stomach has been recognized as a highly malignant tumor; however, because of its rarity, limited information is available regarding its clinicopathologic characteristics. Here, we investigated the morphologic and immunohistochemical features and prognosis of 51 cases of gastric NEC. Histologically, 40 lesions were large cell type, and 11 were small cell type. The large majority of the tumors exhibited a solid growth pattern (94%), with subsets of tumors showing trabecular (18%), scirrhous (10%), or tubular growth patterns (6%). Thirty-six cases (71%) had adenocarcinoma components and/or dysplasia. Among them, 26 cases (51%) were associated with intramucosal adenocarcinoma or dysplasia. Immunohistochemically, synaptophysin, chromogranin A, and CD56 were diffusely expressed in 48 (94%), 44 (86%), and 24 cases (47%), respectively. Two recently reported neuroendocrine markers, ASH1 and NKX2.2, were diffusely positive in 12 (24%) and 17 cases (33%), respectively. The diffuse or focal expression of TTF-1 was observed in 19 cases (37%). Among the 41 patients who underwent a curative resection, 16 patients (39%) developed radiologic recurrences, and the liver was the most frequent site of recurrence (11 patients, 27%). The 3- and 5-year overall survival rates were 57.8% and 44.7%, respectively. Regarding patient outcome, none of the histologic subclassifications, including small cell versus large cell types and the presence versus the absence of adenocarcinoma components and/or dysplasia, were significant. In a multivariate analysis, curative surgery was identified as the sole independent prognostic factor (P=0.03). Although gastric NECs exhibit significant morphologic diversity, their histologic subclassification is unlikely to be of immediate clinical relevance.

PMID: 23759931

http://dx.doi.org/10.1097/PAS.0b013e31828ff59d

6. Eur J Cancer. 2013 Aug;49(12):2681-8. doi: 10.1016/j.ejca.2013.04.006. Epub 2013 May 8. **IF: 5.53**

Clinical significance of surgery for gastric submucosal tumours with size enlargement during watchful waiting period.

Miyazaki Y, Nakajima K, Kurokawa Y, Takahashi T, Takiguchi S, Miyata H, Yamasaki M, Hirota S, Nishida T, Mori M, Doki Y.

Source

Division of Gastroenterological Surgery, Department of Surgery, Graduate School of Medicine, Osaka University, Osaka, Japan.

Abstract

BACKGROUND:

The true impact of surgery for small, asymptomatic and biopsy-negative gastric submucosal tumours (SMTs) with size enlargement during 'watchful waiting' period has not been fully understood.

METHODS:
From 2005 to 2012, 100 patients with gastric SMTs underwent surgery. Twenty-three of them with size enlargement during observation period were enrolled in the retrospective analysis. Data included clinicopathologic findings, genetic findings, operative outcomes and prognoses.

RESULTS:
All patients (13 males, 10 females), with median age of 54 (41-71), had their lesions detected by routine health check-up (n=21) or incidentally (2). The tumours were 1.8 (0.5-4.0)cm in size at their initial detection, and enlarged up to 3.2 (2.0-7.0)cm at the operation during 63.0 (14.6-233.7) months. As surgical procedure, laparoscopic partial gastrectomy accounted for the majority (78.3%). Histologic examination revealed gastrointestinal stromal tumour (GIST) (21) and schwannoma (2). Although 16 out of 21 GISTs were categorised into 'Very low' (1), and 'Low' (13) risk according to Fletcher's classification, 'Intermediate' (5) and 'High' (2) risk were identified in the series. No recurrences/metastases were noted in 23.2 (0.9-87) months of postoperative follow-up.

CONCLUSION:
Our study revealed the existence of high mitotic GISTs in asymptomatic, small gastric SMTs with size enlargement, and laparoscopic surgery was safely applied to majority of those cases. Prompt surgical intervention should therefore be considered for those lesions.

KEYWORDS:

GIST, Gastrointestinal stromal tumour, Guidelines, Incidental GIST, Laparoscopic surgery, Mitosis, NCCN, Risk stratification, Submucosal tumour

PMID: 23664093

http://dx.doi.org/10.1016/j.ejca.2013.04.006

7. Neuroendocrinology. 2013 Sep 21. [Epub ahead of print] **IF: 3.86**

Clinical and Prognostic Features of Rectal Neuroendocrine Tumors.

Weinstock B, Ward SC, Harpaz N, Warner RR, Itzkowitz S, Kim MK.

Source

Division of Gastroenterology, Departments of Medicine, Mount Sinai School of Medicine, New York, N.Y., USA.

Abstract

Background: Rectal neuroendocrine tumors (NETs) are among the most common neuroendocrine tumors. The aim was to validate ENETS/NANETS staging and grading systems with regard to clinical outcomes. Methods: A comprehensive database was constructed from existing databases of The Mount Sinai Division of Gastrointestinal Pathology and the Carcinoid Cancer Foundation. Analysis was performed on 141 patients identified with rectal NETs seen at The Mount Sinai Hospital between 1972 and 2011. Results: The median age was 52.7 years; 43% were males. Average tumor size was 0.88 cm. NETs less than 1 cm accounted for 75.6% of the tumors. Stage I, II, III and IV tumors accounted for 79.4, 2.8, 5.0 and 12.8%, respectively. G1 tumors accounted for 88.1%, G2 8.3% and G3 3.6%. Of G1 tumors, 94.6% were stage I and 5.4% were Stage IV. The median survival time for all 141 patients was 6.8 years (range, 0.8-34.7 years). The overall 5-year survival rate was 84.4%. The 5-year survival rates for patients in stage I-IV were 92.7, 75.0, 42.9 and 33.2%, respectively. The 5-year survival rates for patients with G1-G3 tumors were

87.7, 47.6 and 33.3% respectively. Univariate analysis of increased survival showed significance for lower stage, lower grade, smaller size, absence of symptoms and endoscopically treatedtumors. Multivariate analysis showed that stage alone was statistically significant as the strongest predictor of survival. Conclusion: The results of our study validated ENETS/NANETS guidelines for staging and grading of rectal neuroendocrine tumors in the U.S. setting of a tertiary referral center. Staging according to ENETS/NANETS guidelines should be used in the treatment algorithm rather than size alone. © 2013 S. Karger AG, Basel.

PMID: 24080744

8. Am J Clin Pathol. 2013 Jul;140(1):61-72. doi: 10.1309/AJCPIV40ISTBXRAX. **IF: 3.22**

Epithelial-mesenchymal transition markers in the differential diagnosis of gastroenteropancreatic neuroendocrine tumors.

Galván JA, Astudillo A, Vallina A, Fonseca PJ, Gómez-Izquierdo L, García-Carbonero R, González MV.

Source

Laboratorio del Banco de Tumores-Anatomia Patológica, c/ Celestino Villamil, s/n, 33006 Oviedo, Spain. galvanjose@uniovi.es

Abstract

OBJECTIVES:

To elucidate the role of epithelial-mesenchymal transition markers in gastroenteropancreatic neuroendocrine tumors (GEP NETs) and the potential usefulness in their clinical management.

METHODS:

One hundred ten GEP NET paraffin-embedded samples were immunohistochemically analyzed for E-cadherin, N-cadherin, β-catenin, vimentin, Snail1, Snail2, Twist, and Foxc2 protein expression.

RESULTS:

The 5-year survival rate was reduced for those patients showing high Snail1 protein levels, a cytoplasmic E-cadherin pattern, reduced N-cadherin expression, and loss of E-cadherin/β-catenin adhesion complex integrity at the cell membrane. Interestingly, high β-catenin expression was useful in identifying a grade 1 NET subgroup with a favorable clinical course. Importantly, it also helped to discriminate small-cell vs large-cell grade 3 neuroendocrine carcinomas.

CONCLUSIONS:

β-Catenin and N-cadherin immunohistochemical detection might be a useful tool in the differential diagnosis of small-cell vs large-cell G3 neuroendocrine carcinomas. High Snail1 and Foxc2 expression is associated with the invasion and metastatic spread of GEP NETs.

KEYWORDS:

E-cadherin, EMT, Foxc2, Neuroendocrine tumors, Snail1, Snail2, β-catenin

PMID: 23765535

http://dx.doi.org/10.1309/AJCPIV40ISTBXRAX

9. J Surg Oncol. 2013 Aug;108(2):126-8. doi: 10.1002/jso.23359. Epub 2013 Jun 15. **IF: 2.97**

Serum pancreastatin: the next predictive neuroendocrine tumor marker.

Rustagi S, Warner RR, Divino CM.

Source

Department of Surgery, The Mount Sinai Hospital New York, New York, NY 10029, USA.

Abstract

BACKGROUND AND OBJECTIVES:
Pancreastatin is a derived peptide of chromogranin A (CgA). Pancreastatin has the potential to be a diagnostic and predictive tumor marker in detecting NETs.

METHODS:
Radioimmunoassay tests of pancreastatin and CgA were performed on 103 patient specimens collected at Mount Sinai Medical Center between 1/2010 and 7/2012. Patient demographics, diagnostic tests, surgical procedures, pathologic findings, adjuvant treatments, and survival were retrospectively reviewed. Statistical analysis utilized SPSS v20 software.

RESULTS:
Mean pancreastatin levels were significantly higher in the 92 NETs patients than in the 11 non-NETs patients (227.261 vs. 59.727, $P < 0.05$). Twenty-seven of the 92 patients with elevated pancreastatin levels (mean = 240.67), had normal CgA levels (mean = 4.65). Pancreastatin had sensitivity and specificity of 64% (59/92), and 100% (11/11). CgA had lower sensitivity and specificity of 43% (40/92), and 64% (7/11). In all 27 instances the pancreastatin concentration was found to be sole indicator of NET disease. When controlling for the level of CgA for the entire sample, a statistically significant difference was not found in the mean pancreastatin levels between both patient groups ($P = 0.139$, $R = 0.484$).

CONCLUSION:
Pancreastatin has greater sensitivity and specificity in diagnosing NETs than CgA. Further investigation of pancreastatin's diagnostic and predictive value is warranted.

KEYWORDS:

CgA, NETs, pancreastatin

PMID: 23775817

http://dx.doi.org/10.1002/jso.23359

10. Dig Dis Sci. 2013 Jul;58(7):2093-9. doi: 10.1007/s10620-013-2590-4. Epub 2013 Feb 20. **IF: 2.65**

Factors predictive of adverse events associated with endoscopic ultrasound-guided fine needle aspiration of pancreatic solid lesions.

Katanuma A, Maguchi H, Yane K, Hashigo S, Kin T, Kaneko M, Kato S, Kato R, Harada R, Osanai M, Takahashi K, Nojima M.

Source

Center for Gastroenterology, Teine-Keijinkai Hospital, 1-40-1-12 Maeda, Teine-ku, Sapporo, Hokkaido 006-8555, Japan. akio-ka@ta2.so-net.ne.jp

Abstract

BACKGROUND:
Endoscopic ultrasound-guided fine needle aspiration (EUS-FNA) provides high diagnostic accuracy with a low incidence of procedural complications. However, it occasionally causes serious complications, and factors that increase the susceptibility to such adverse events remain unknown.

AIMS:
We aimed to examine post-procedural events and determine risk factors associated with EUS-FNA of pancreatic solid lesions.

METHODS:
This single-center retrospective study included 316 consecutive patients with pancreatic solid lesions who underwent 327 EUS-FNA procedures from April 2003 to September 2011. We registered all patients undergoing EUS-FNA in the database and retrospectively ascertained the presence/absence of post-procedural adverse events.

RESULTS:
The incidence of post-procedural adverse events, including moderate to mild pancreatitis, mild abdominal pain, and mild bleeding, was 3.4 %. Univariate analysis showed that the incidence of post-procedural events was significantly increased in patients with tumors less than or equal to 20 mm in diameter ($P < 0.001$), those with pancreatic neuroendocrine tumors (PNET) ($P = 0.012$), and patients who had intervening normal pancreas for accessing the lesion ($P = 0.048$). Multivariate analysis identified tumors measuring less than or equal to 20 mm in diameter (OR 18.48; 95 % CI 3.55-96.17) and case of PNETs (OR 36.50; 95 % CI 1.73-771.83) were an independent risk factors.

CONCLUSIONS:
EUS-FNA of pancreatic solid lesions is a safe procedure. However, pancreatic lesions with small diameters and pancreatic neuroendocrine tumors are important factors associated with adverse events after EUS-FNA.

PMID: 23423501

http://dx.doi.org/10.1007/s10620-013-2590-4

11.  Laryngoscope. 2013 Jul;123(7):1645-51. doi: 10.1002/lary.23856. Epub 2013 Jun 4. **IF: 1.32**

Short-term outcomes and cost of care of treatment of head and neck paragangliomas.

Chan JY, Li RJ, Gourin CG.

Source

Department of Otolaryngology-Head and Neck Surgery, Johns Hopkins University, Baltimore, Maryland, USA.

Abstract

OBJECTIVES/HYPOTHESIS:
To characterize contemporary treatment of head and neck paragangliomas and the effect of treatment on postoperative complications, length of stay, and costs.

STUDY DESIGN:
Retrospective cross-sectional study.

METHODS:
Discharge data from the Nationwide Inpatient Sample for 7,791 patients who underwent endovascular or surgical treatment of head and neck paragangliomas between 1993 and 2008 were analyzed using cross tabulations and multivariate regression modeling.

RESULTS:
Surgery only was performed in 91% of cases, embolization alone was performed in 4% of cases, and both embolization and surgery were performed in 5% of cases. Postoperative surgical complications were significantly more likely in patients undergoing embolization and surgery during the same admission (odds ratio [OR], 2.3; P = .031), whereas acute medical complications were more likely in patients undergoing embolization only (OR, 3.9; P = .001). Embolization alone was specifically associated with an increased risk of acute renal failure (OR, 8.2; P = .026) and pneumonia (OR, 3.9; P = .001). Cranial nerve injury was associated with increased odds of dysphagia (OR, 8.5; P = .004), and dysphagia was associated with increased odds of voice disturbance (OR, 5.1; P = .004). Embolization, with or without surgery during the same admission, was associated with significantly increased hospital-related costs, after controlling for all other variables.

CONCLUSIONS:
Endovascular treatment of head and neck paragangliomas is associated with an increase in complications and hospital-related costs. Although these findings may reflect larger tumor size and comorbidity in patients selected for embolization, these data suggest a need to reexamine the benefits and cost-effectiveness of embolization in surgical patients.

PMID: 23737361

http://dx.doi.org/10.1002/lary.23856